

SOUTHERN PLANTER

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THE

Sixty-Fifth Year.

Southern Planter

A MONTHLY JOURNAL

DEVOTED TO

Practical and Progressive Agriculture, Horticulture,
Trucking, Live Stock and the Fireside.

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The Southern Planter.

DEVOTED TO

PRACTICAL AND PROGRESSIVE AGRICULTURE, HORTICULTURE,
RUCKING, LIVE STOCK AND THE FIRESIDE.

Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, February, 1904.

No. 2.

Farm Management.

WORK FOR THE MONTH.

We had hoped that before we were called upon to write our usual cle on Work for the month for our February issue that weather conditions would in the South have reted to something like normal conditions but in t we have been disappointed. For now more than months the land has been locked in icy embrace and the indications still are as unpromising for ange as they were at the start. For once our agrieutl situation is practically the same as that of a farmer at the North. Never since the weather reals have been systematically kept has the South hasuch a long continued spell of winter weather. T mean average temperature for the month of Decer was nearly 6 degrees below the normal for that month and so far January has been more severe than December. The result of this is that all work onne land has been brought to a standstill for a longetime than we have ever known, and with the scarcit of labor which is common throughout the South, much inconvenience is going to be caused, and it will be difficult for the usual areas of crops to be plantd. Work will have to be rushed all through the plating season and doubtless much of the crop will beplanted in poorly prepared seed beds with a consequent probability of small yields. This is a very discouraging outlook but even that does not cover all the probable loss. Wheat, winter oats and grass seeded in the fall are sure to have suffered severely as there has been little snow anywhere South to protect the plants. Possibly this may not turn out

as disastrous as we fear from the fact that the land was very dry at the time when the frost set in and there has been but very little thawing at any time during the winter, hence the land has not heaved as it would have done had it been full of water when first frozen. Usually this is the case and the heaving of the land when thawing breaks the roots and does much of the damage which follows. We trust this may turn out to be the case. If not it is possible that much of the fall seeding will have to be done over again and thus add to the press of work in the spring. Wherever land was plowed previous to the commencement of the frost it will be in fine condition for seeding without much labor as the frost will have so disintegrated it as to make it fall into a fine seed bed with a touch of the harrow. The Southern farmer has, however, one source of comfort denied to his Northern brother. The sun in February has a power which it does not acquire in the North until several months later and if we only once get rid of the cold icy blasts from the Northwest it will not take long to thaw out the land and permit of the beginning of work. When this happens not a moment of time should be lost in setting the teams to work and fitting the land for seeding oats. We have never been advocates for spring sown oats in the South as they rarely make a profitable crop but in a season like this with the probability of disaster to the fall sown crop and extra land to put in crop in a curtailed planting season, it may well be politic to sow oats in the spring and thus get some of the land out of the way and pro-

ducing something. If the crop can be seeded in February we would sow Virginia grey winter oats, but if not ready to seed until March, and we would not sow later than March, we would then sow Rust proof oats. It will pay to prepare the land well for oats and not merely to sow them on the top and plow them down as is too often done. Where the land is not in a fertile condition they should also have the help of some acid phosphate, say 250 or 300 pounds to the acre and when they commence to grow freely a top dressing of 100 pounds of nitrate of soda to the acre will help them wonderfully. The oat crop in Virginia last year was grown on 206,529 acres and the average yield was only 13 bushels to the acre or little more than one-half of the average for the whole country. This ought to be improved upon and can be if only our advice is followed and a fair season follows.

Canada peas and oats may be seeded for a grazing and forage crop as soon as ever the land can be got ready but should not be seeded later than March, as this is essentially a cool weather crop and should be off the ground before the hot weather comes or it will be worth little for either purpose. The peas mildew as soon as ever the hot weather sets in. The land for this crop should be well prepared and the peas at the rate of $1\frac{1}{2}$ or 2 bushels to the acre be seeded first and be either drilled deep or be plowed down or be worked in with a disc cultivator so as to give them a cover of 5 or 6 inches. The oats, three-fourths of a bushel to the acre, should then be sown on the land and be covered with a harrow. This crop makes one of the best early grazing crops for hogs and if not wanted for this purpose makes fine hay and comes off the land soon enough to be followed by peas or corn or another forage crop. A dressing of 250 or 300 pounds of acid phosphate to the acre will help the crop considerably and usually pays well.

Dwarf Essex Rape may be sowed this month and in March for a grazing crop for hogs, sheep or young cattle. Plow and make the land fine and sow either broadcast or in drills 2 feet apart. Three pounds of seed will be sufficient for an acre sowed in drill. Five should be seeded broadcast. This crop can only be used as green feed. It cannot be cured for winter use. The crop can be followed by a pea or corn crop the same season as it will not stand through the hot weather.

It is too early to sow any other crops than those above mentioned and therefore all the time available after these are seeded should be given to preparing the

land for other spring sown crops. All recent investigations and experiments go to support the position we have long taken up, that perfect preparation of the land before seeding the crop has more influence on the yield than the fertilizer used. The latest investigations by the experts of the Department of Agriculture go to prove that there is in all land, except the most barren, more than sufficient mineral plant food to produce paying crops for years to come and that the problem to be solved is how to make this available. It is not more mineral plant food that is needed but such a physical and mechanical condition of the soil as will result in the holding of such a moisture content as will dissolve this food and thus render it available. This can only be brought about by deep plowing, sub-soiling and cultivating the land so as to reduce it to the finest consistency and the greatest depth of soil and the filling this with vegetable matter which will hold the moisture and make the soil fitted for the habitation and working of the soil microbes upon which the availability of the plant food mainly depends. Already some few of the most successful farmers in the South have demonstrated the truth of these positions, and have either altogether abandoned the use of commercial fertilizers or still use only the particular element of plant food which they have by experiment and experience proved to be lacking in their soil. We know of one farmer farming over 1,500 acres of land who has never used an ounce of commercial fertilizer in his life, and yet he makes some of the heaviest crops of any farmer in the South, and does this with the greatest profit. The farm on which he accomplishes this was twenty years ago as poor a one as could be found in the section in which it is located. The whole improvement has been made by deep plowing, perfect cultivation, the growth of leguminous crops, and the application of the farm yard manure made by a large head of stock. These methods have put the land into fine physical and mechanical condition, and filled it with the soil microbes essential to successful crop production. The yields so produced are converted largely into beef, pork, milk and other concentrated products, or when in excess of the necessity of the place, are sold on the markets in the form produced, and the resulting cash comes back to the farm without a fertilizer bill to pay out of it. What one man has done all may do, though we fully realize that on many, probably most, farms, the use of one or more of the elements of plant food may often be found both useful and profitable, but the use of factory mixed commercial fertilizers we most unhesitatingly say is unwise and has never received any encouragement in this journal. The farmers of the

South throw millions of dollars away every year in the use of these mixed goods. Find out what element of plant food your soil needs by asking it the question in an experiment on a series of small plots, giving to one plot one element and to the others others, either singly or in combination and giving to another plot nothing but deep and perfect cultivation. In this way you will know what, if anything, needs to be supplied, and then buy that only, and save hundreds of dollars now going to the fertilizer makers for something you do not need. Our own personal experience has been always on this line. We never bought a factory mixed fertilizer in our life, and we never advise one. Do not wait until you are just ready to use the fertilizer before ordering it. You ought to have so laid out your system of rotation and crops for this season that you know now what fertilizer, if any, you will need. Order at once and then you will have it when you want to use it.

If after the frost goes some of the wheat and winter oat fields are found to be so badly injured as not to be likely to produce a paying crop instead of seeding them with spring oats break with a disc harrow or cultivator and make into a fine seed bed and sow grass and clover or grass alone on such part of the land as was enriched with fertilizer for the failed crops. Although we are not advocates for the spring seeding of grass usually, yet we think that in such a season as this, where disaster in many cases must necessarily have overtaken the fall sown crop, such a departure is justified, and if the season be at all a normal one will, if sown without a grain crop, in all probability make a stand, which will supply the place of the killed fall sown one. We have had recently a considerable number of letters from subscribers in different parts of this State and from adjoining States, approving our often expressed advice to sow grass without a nurse crop, experience having resulted in complete success where the old practice had too often resulted in failure. Grass may be seeded in the spring at any time up to the end of March. On the land not fitted to produce a grass stand, work with the disc harrow or cultivator and make fine and sow on part Hairy Vetch and oats for green forage or hay, and on other part rape (Dwarf Essex) for grazing for the hogs and young cattle. Hairy Vetch is best seeded in the fall, but we have known a good crop made seeded in the spring. These crops may be seeded from February to the end of March, but it will be useless to sow them later with any certainty of success.

Tobacco plant beds should be burnt and seeded as

soon as ever the weather will allow of this being done. We expect to see a large reduction in the area of tobacco grown in North and South Carolina in consequence of the high price and prospective high price of cotton. This should lead our growers in this State to plant more liberally as the price of the crop cannot fail, if the quality be good, to be favorably affected. Get seed of a good type like the Orinoco and Pryor varieties wherever the land is suited to these types, and in the dark shipping sections sow the seed of heavy broad leaved types, and not the long, narrow One sucker variety.

In the cotton sections we would urge that our friends should not lose their heads because cotton is now so high, and plant nothing but cotton. Make plenty of cotton, but do not fail at the same time to make provision for raising all necessary home supplies, and do not slip back into the old rut of growing cotton to buy home supplies with. Let the cotton be a surplus crop, and then it cannot fail to be a profitable one. A slipping back into the old rut means sooner or later bondage to the storekeeper and land running back into poverty again. Maintain and enhance the fertility of the land by growing peas and other forage crops, and keeping stock, and then the yield of the cotton crop will also be enhanced, and a bale to the acre will be made for less than the cost of the present average yield. Read what we have said as to the preparation of the land and the use of mixed commercial fertilizer, and act upon the advice given. It will pay the cotton planter to do so as well as the general farmer.

Make out orders for seeds required and send them to the dealers at once, and thus be certain to have your seed when you need it. Test a small sample of each seed bought, and thus be certain that you have some knowledge of what proportion of the seed will germinate, and thus have a guide in seeding. Place the sample to be tested on a piece of damp flannel in a saucer in a moderately warm place and cover with another piece of damp flannel, and the seeds will soon show what proportion will germinate.

SUBSTITUTE FOR CUTTING BOX.

Editor Southern Planter:

It may interest any one whose cutting box is broken to know that corn fodder can be rapidly cut with an ordinary buck saw and horse as stove wood is prepared. Place a bundle of fodder in the horse, hold it

with one knee and cut into any length faster than a cutting box with lever power.

Montgomery Co., Md.

OTIS BIGELOW.

The revolving cutter is now so cheap that no one having a few head of live stock ought to waste time with the old lever cutting box, or a buck saw.—ED.

POINTS TO BE OBSERVED.

Editor Southern Planter:

How to obtain the largest net return is of all questions the most important in farm management. In the solution of this problem the farmer has others to settle—namely which crops to produce and what fertilizers to use in order to produce them. Soil, climate, geographical position, markets, transportation facilities, labor, political and social conditions must all be considered before these questions can be intelligibly answered.

In the laboratory, where chemical and physical researches are conducted, all conditions that can possibly influence results are under control or can be definitely determined, and experiments can therefore be conducted with all the accuracy demanded in the strict methods of scientific investigation.

On the other hand, in the experiments with field crops, we have to deal with living organisms, which, in the activity of their growth and development are influenced by any slight changes in their environments. Changes in location, soil and culture all have a corresponding effect on plant production.

The careful work that is done at experiment stations and on experiment farms is useful mainly for the study and definition of scientific principles, and is thus of great value and importance as a source of general information. The practical application, however, in individual cases should depend on home experiments. Here the results obtained under the existing conditions will be more definite and of far greater specific value than those arrived at under other influences.

An experiment which would pay every farmer to make, whether he farms on a large or small scale, is that of testing the improved varieties of the different agricultural plants which are being constantly put on the market. Many of them possess real merit, but just as with the different breeds of animals, they are not all adapted to the same section. Some of them which on one farm would greatly increase the profits over an old or another variety, might on another farm, only a few miles away, be a failure. The writer has had an experience of just this kind with

tobacco. On one farm a particular variety was grown very successfully, while only four miles away it was impossible to grow this variety at anything but a loss, though here another sort was grown very profitably. Like instances, perhaps not so marked as this one, are known of other farm and garden plants. If the yield can be increased by changing the variety the gain is clear, since it costs as much to grow a poor sort as it does a good one.

The farmer cannot afford to risk his whole crop, or any large part of it, with a variety which he has not tried himself. Consequently he should plant each year a few plots to some new sorts. The extra cost and labor would amount to almost nothing, when compared to the profits and satisfaction of knowing and having the best.

Some few fertilizer tests on the farm where fertilizers are used would be very valuable as well as educational. The different available elements of plant food found in the soil vary greatly in quantity according to location, formation and system of crop rotation.

No farmer can use commercial fertilizers intelligently and economically until he knows just the kinds and amounts of plant food he must apply to his soil in order to produce the most paying crop. Whenever too much or too little of an ingredient, or one which is not needed is used, he loses either in direct cash or in his crop. There is no doubt that large amounts are annually lost in this manner.

It seldom, if ever, pays to use one of the so-called complete fertilizers. It is much more economical to buy your ammonia or nitrate, phosphoric acid and potash, and apply them to the land either separately or mix at home, than to pay a manufacturer several dollars per ton for mixing an article which may be out of all proportions to your needs, besides the extra freight and cost of handling a large amount of filler which is often used.

All that is necessary for making some interesting and valuable tests are a few small plots of land, usually of one-tenth or one-twentieth of an acre each laid out on an even, level portion of the field. These plots are all broken, seeded and tilled in precisely the same manner, but are treated differently as to application of plant food. Some of the plots receive no fertilizer, others one or two or all three of the plant food ingredients and in varying proportions. The crops from each plot are harvested separately, carefully weighed, and the quality noted. Thus, the results obtained from the various plots show the effectiveness of the different fertilizer combinations in producing yield and quality, and the man who tills the soil will know

exactly what his own particular soil needs in order to produce the best crops.

MEADE FERGUSON,
Assistant Professor of Agriculture.
Experiment Station, Blacksburg, Va.

RAISING ALFALFA.

Editor Southern Planter:

A friend living in the West has written to me, stating that a land agent had offered to sell him a farm at \$10 per acre, and had told him that he could make \$2,000 yearly from 50 acres of alfalfa. My friend wants to know whether such profits are possible.

In answer to this and many other inquiries I wish to say that the future success of such an enterprise depends upon several conditions. If it is intended to sell the hay at prices yielding \$40 per acre revenue there must first be a convenient market for the hay. The price of hay depends partly upon local conditions, but is always influenced by the market prices in the nearer towns. If you live near a city like Richmond, for instance, hay will command a good price at all times, no matter whether the immediate neighborhood is in need of hay or not, because the city will consume the surplus and much more than will be raised for many years.

Perhaps more important even than a market is the condition of the soil. Alfalfa will not grow on wet, clammy land nor in poor sand or gravel. Properly cared for, alfalfa will yield large crops; improperly cared for, the profit will be small.

Taking it for granted that the land offered for \$10 is of proper quality, the next question is: How many acres are cleared, free from brush, rocks, etc. If the farm consisted of 300 acres and only 100 acres were cleared and in good condition, our friend should charge the entire price of the farm to this one hundred acres, and every acre would then cost him \$30 instead of \$10. He might, perhaps, be able to sell the other 200 acres, and thus reduce the cost of the remainder. If he is going to farm, he will have no time to attend to cutting or selling wood, lumber, etc. He will have plenty to do to get his farm in order.

If there is any ditching or laying of tile to be done, that would have to be added to the cost. And fencing will cost some money also. Another point to be considered is the state of fertility of the soil. Some lands are poor, others in fair condition. It may easily take \$10 per acre for fertilizer to make the poor land as fertile as the fairly rich soil.

Let us suppose that our friend has bought 100 acres of clear land suitable for alfalfa. If he sows a small

patch, say 5 or 10 acres to alfalfa, he will have a nice lot of green feed and some excellent hay to feed his stock, and a few tons to sell. But to make hay raising a business requires doing things on a larger scale. And if he thinks to do the work of setting the land to alfalfa little by little from year to year he will get old and gray before he gets through, because farming the other lands will keep him busy. He should put off buying stock and implements except what may be absolutely needed to work his alfalfa, and he should devote the first year entirely to that one crop. He can better afford to buy feed for his teams than to postpone working his alfalfa. Feed can be bought at all times, but well-set alfalfa fields are not for sale at any price.

Alfalfa requires well prepared and well fertilized soil. Plow the land in the spring. Have the sub-soil plow follow the turning plow to loosen the soil deeply. Harrow immediately after plowing, unless too wet. Spread 20 bushels of lime and 300 to 500 pounds of rock phosphate and some potassium chloride, if the soil needs "potash." Harrow well and sow thickly to cow peas, but wait until the ground is warm enough. You can keep up plowing and subsoiling and sowing peas until June.

In July begin plowing under the first sowed peas. Disk the land in half-lap every week until September, then spread again 20 bushels of lime and 500 to 1,000 pounds rock phosphate and also some potassium chloride, if needed. If the disking has been properly done, the field should be free from weeds. Never plow the land shortly before sowing alfalfa. While alfalfa requires deeply stirred soil, the land must be well packed again by frequent working of the surface, and should be well settled. Harrow the land to a fine tilth and sow from 25 to 30 pounds of the best Western seed. If you have a press drill, 15 pounds of seed to the acre will do. If broadcasted, use a roller and follow with the smoothing harrow. Do not cover the seed too deeply, but be sure that all is covered. Infect the seed with alfalfa bacteria before sowing or infect the land. The bacteria will be furnished free by the Department of Agriculture, Washington, D. C., with instructions.

Keep everything off the field during fall and winter, even dogs, for the young plants are very tender, and will surely die if stepped upon, and there is no way of filling the gap.

Next spring and during summer mow the field every two weeks to kill the weeds. Leave the cutting on the field as a mulch, but never allow large lumps of hay or trash to lay on the field.

The following spring, if the land be dry, before the

alfalfa starts to grow, disk it lightly, setting the disks straight, following with a smoothing harrow cross-ways to keep the land level. If the land be wet, keep the disk off.

After harvesting the first crop, disk well, setting the disks to tear up the surface and to split the top roots. Follow again with the smoothing harrow. Disk and harrow again after each cutting not only to kill weeds and grasses, but also to provide a dust blanket to prevent the soil from drying out. Disking, of course, is not advisable when the ground is wet or very moist.

Each and every year supply the field with 10 to 15 bushels of lime and 500 to 1,000 pounds of rock phosphate and some potassium chloride, if the soil is in need of "potash." Stable manure can be used to better advantage on your corn field.

Cut your alfalfa whenever the field is in full bloom, but don't wait until every plant blooms, because the leaves will drop off too easily if alfalfa is permitted to bloom too long. The leaves are the best part of the hay, and great care is needed to prevent them from dropping when handling the hay. Cure the hay in small cocks like red clover. If the hay is ricked or stacked, put on covers. Never allow alfalfa to grow to seed, as it will ruin the field.

While alfalfa enriches the soil even more than clover, don't let anything tempt you to plow up an alfalfa field unless another has been set to take its place. Alfalfa will remain twenty and perhaps one hundred years if properly cared for. Be on the look out for dodder. If any appears, pull it out or mow it before it goes to seed. It does not grow from roots. Don't allow broom straw to grow to seed near the alfalfa field.

Of course, you can raise alfalfa without doing the work properly, but slipshod work always produces poor crops. You may get some sort of a crop by using less fertilizer. That reminds me of an old German farmer. He was told that agricultural science was progressing in such a way that he would soon be able to carry the fertilizer for an acre in his pocket. "Yes," he admitted, "and you can carry the crop home in the other pocket." Lands must be fed as well as animals. You know the fable of the man who left his donkey to his six sons, to be used by them alternately. The first son said to the donkey: "My brother will feed you to-morrow. You can do one day without feed." But the second brother and the others thought likewise, and on the seventh day the donkey died. Too many Virginia farms are being treated like this poor donkey.

If properly treated, alfalfa will yield from 4 to 8,

and even more, tons per acre every year. It will withstand drouth better than any other plant. If poorly treated the weeds will crowd out the alfalfa, and the crops will be poor. For the last eight years hay has never been long below from \$12 to \$15 per ton, often more. The cost of harvesting, if done with the aid of proper machinery, should not exceed \$3 per ton, including baling. And it is more than likely that the crop of any 100 acre field could be sold in almost any neighborhood without having to haul it. The cost of fertilizing and disking would probably amount to \$10 or \$12 per acre every year. Does alfalfa pay? Try it. And, by the way, do you know of a well set alfalfa field in Virginia near a large city that could be bought for \$100 per acre or for \$200 or for \$300? N.

Hanover Co., Va.

IMPROVING EASTERN VIRGINIA LANDS.

Editor Southern Planter:

I have derived much pleasure and profit from reading your reminiscences of Mr. Edmund Ruffin and other agricultural writers in your January issue. I fear much of Eastern Virginia is yet in about the same fix as it was at the time Mr. Ruffin began his experiments to find out what ailed the soil of that part of the State. Much of our lands are so wanting in lime and humus as to be almost worthless. I have sought for the reason of this lack of lime. Some five or more years ago Richmond made her gas from coal, since then she has adopted water gas. The coal gas was passed through bodies of shell lime to purify it. This lime was made at the works. Since they have made water gas they have stopped making shell lime. The lime from the purifiers accumulated in large heaps, and was bought by farmers for half a cent a bushel. It was constantly hauled and spread upon our lands, and notwithstanding some deleterious matter, it did a world of good. It made the lands improve easily, converting the organic matter into plant food. In the absence of the lime clover does not set, the lands are getting poor and acid. We must go to work and feed the soil with crops of rye in the fall, followed by peas in the spring, and haul lime, if it does cost six or seven cents a bushel, and the hauling. It will be money well spent. Twenty or thirty bushels per acre will do wonders with plenty of vegetable matter in improving our worn out soils. Crops are bringing money to our farmers, and they must be up and doing, and help to make good the defects of the soil. We must make more and better

crops. There is no use cultivating two acres to make what one will produce with a little help.

F. GUY.

Henrico Co., Va.

TILE DRAINING.

Editor Southern Planter.

The soil of my farm is decomposed, rotten, Potomac rock, gneiss, schist, etc., which, under water, becomes quick sand and compels in the laying of tile extraordinary care and accuracy. In ignorance of this fact, all my first laid tile ditches proved expensive failures, as they were put in as though my land was stiff Ohio clay, with which I was experienced. I found that I must ditch only when the ground was dry and solid in August, September and October; next, that the joints must be perfect, and when laid should be covered with paper or some such matter; and thirdly, the grade or slope must be accurate and uniform. To secure the latter essential, I tried various means without true success, until I adopted the following plan:

When the ditch has been dug to near its bottom, on each side, at its head and foot, stakes are driven, and to these boards are fastened with cheap quilting frame clamps, costing 10 cents each, the upper edges of the boards being seven feet above the tile bed or groove. Intermediate at intervals of from 50 to 75 feet similar stakes are driven, to which boards are similarly fastened. By sighting over the tops of the end or guide boards, perfect grade is secured. Now, over all the boards a strong twine is drawn taut, which, of course, throughout its entire length is precisely seven feet above the tile bed. The ditcher with a seven-foot measuring stick can bed his tile with perfect accuracy as to grade or slope. No engineer with his instruments can get a truer tile bed than my colored ditcher with his stakes, boards and twine. Running water has been recommended for finding bottom. This will do on stiff clay soil, but fails on my quicksand, for if the grade be, say 24 inches to the 100 feet, water will run freely, though there be a bump in the bottom of the ditch 8 or 10 inches high.

Any irregularity in the bottom of a quicksand tile ditch soon brings failure. Paper will last until the earth above the tile has firmly settled. The longer the twine the better. If the ditch be 500 feet long use a twine of that length, for then there can be no deviation from grade.

R. S. LACY.

Alexandria Co., Va.

ENQUIRER'S COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Nitrate of Soda—Humus.

Please inform me if there is any trouble or danger in handling "nitrate of soda" and will it pay to put on wheat that is looking very bad. Also take pity on my ignorance and tell me what is "humus" and how may a person know when there is much in the land or otherwise.

Mrs. L. W. COURTNEY.

Northumberland Co., Va.

Nitrate of soda may be handled without any danger. It is like coarse salt. Do not, however, spread it on land where chickens or stock are feeding, or it will poison them. This, however, will only happen when they are on the land when it is sown. It is as soluble as salt, and will all have disappeared in 24 hours if the weather be at all damp and in less time with rain. It will help the wheat wonderfully. Apply 100 or 150 pounds to the acre just when the wheat begins to grow, not before, as the plant requires to be in an active condition, so that it can at once absorb it. Humus is simply decayed vegetable matter. You find it in all fertile soil, and is what our lands in the South need much more than fertilizer. Any vegetable matter makes humus as it decays. The darker the soil usually the more humus it contains.—Ed.

Warts on Horses—Scratches.

What will take a wart off a colt? This one is upon the head between the eyes. What is good for the scratches?

WM. H. BAGBY.

King and Queen Co., Va.

If the wart is only small, clip it off with a pair of scissors and touch the place with bluestone to stop the bleeding. If the neck of the wart be very thick tie a fine silk thread round it and keep drawing tighter until the wart drops off or burn it off with bluestone or caustic.

For scratches, give a laxative ball of 5 drams of aloes. Wash the legs well and wipe dry, and then apply vaseline 1 ounce, sugar of lead 1 dram, and carbolic acid 10 drops mixed together.—Ed.

Silo Filling—Silage.

1. In filling silo, what power is necessary to make reasonable progress in cutting and elevating, say 15 feet?

2. Will the silage keep well in the South, and in case not all used, will it keep over summer for next winter?

3. Will bamboos grow well in North Alabama? What are the principle uses? What is known as to their value in the States?

L. T. AYRES.

Winnipeg, Canada.

1. A 5 or 6 horse engine with cutter and blower is necessary to make good progress.

2. Yes.

3. We are unable to give you definite information as to bamboos. Some of the varieties are said to be hardy as far north as Philadelphia. We believe the Department of Agriculture has published some matter on this subject, but cannot put our hands on it. Write the Department at Washington.—Ed.

Crops for Hogs.

1. What can be grown in the spring of the year that will come in and make the earliest pasture for hogs?

2. Could you sow rape and oats together and after cutting the oats have the rape for hog pasture?

3. Would I get a stand of clover by sowing the three together, or could I sow rape and clover together?

4. Can I get a stand of crimson clover and red clover together or would one smother the other out?

5. Please give me what would be the best succession of green crops for hogs during the summer, and which may be the best way to feed; to cut and give to the hogs, or to turn the hogs in and let them eat them down.

A NEW ENQUIRER.

Albemarle Co., Va.

1. Canada peas and oats sowed together, or rape will make the earliest pasture for hogs of anything that can be sowed in spring. Sow as soon as the weather will allow. In this issue will be found advice as to these crops.

2. Rape should be sown alone to make the best yield. You cannot sow rape and oats together and cut the oats for a crop. If sown together they will have to be pastured.

3. No.

4. We have known crimson and red clover sown together and make a success, but the crimson is very apt to kill out the red.

5. To make a good succession of crops for hogs, work should begin in the fall by sowing crimson clover and oats and wheat together in one plot, and hairy vetch and oats and wheat in another. These should be followed by rape in another plot sowed in February or March. Then should follow artichokes planted in March or April for winter feed. In May soy beans, cow peas and sorghum should be sowed, and in June corn and sorghum. These several crops will then come in in order to supply feed for the hogs

the whole year. The hogs should graze all the crops except the sorghum and corn, which are better cut and fed to them.—Ed.

Diseased Fowls.

Will you kindly give me a remedy for my fowls? They have a disease something like the gapes. They are continually clearing their throats.

Henrico Co., Va.

A SUBSCRIBER.

Your hens have got a slight attack of roup from sleeping in cold, drafty quarters. Catch those affected and confine them to themselves and wash out their nostrils and throats with comphorated oil or kerosene and give them a small quinine pill each. Continue the treatment for a few days, when they should be all right. The disease is like an influenza cold, infectious.—Ed.

English Blue Grass—Hungarian Brome Grass. Coculus Indicus.

1. Owing to the cold dry fall and hard freezing weather we have had this winter I fear our fall seeding of grass has been killed. I wish to try sowing Randall or English blue grass on land I sowed in wheat last fall. The Breeder's Gazette recommends sowing blue grass in January and February on land that has been seeded to wheat. Please tell me if you think a stand of English blue grass can be gotten if seeded in these months?

2. Where can coculus indicus (fish berries) which you recommend for lice on cattle be bought?

3. Will Hungarian or Awnless brome grass come if sown on wheat land in this or next month?

Fluranna Co., Va.

J. S. PAYNE.

1. All the grasses do better in the South seeded in the fall, but when fall seeding fails we should not hesitate to sow in the early spring. February and March are the best months. Harrow the wheat and then sow the grass seed, and if dry enough roll; if not, leave as harrowed.

2. You can get the berries named at the drug stores.

3. Hungarian Brome Grass has succeeded well in this State sown in the fall. Like all the other grasses, it does better and is more certain to make a stand sown alone, but will sometimes succeed with a grain crop. Sow in February or March as directed for Randall grass.—Ed.

Sheep Pulling Wool—Lump on Cow's Jaw.

1. What is the disease that causes sheep to bite at their wool, and pull it out? Please give remedy.

2. I have a cow that has had a swelling or lump on lower jaw, for five or six months. It seems to gather

and burst sometimes. She keeps a good appetite, but she is losing flesh and seems to be on the decline. Please give me disease and remedy.

Charlotte Co., Va.

SUBSCRIBER.

1. The sheep have lice on them, and should be dipped in one of the sheep dips, which you will find advertised in our columns frequently during the year. Laidlaw, McKill Co., of Richmond, Va., make one of the best dips.

2. The cow is very probably suffering from the disease called *Actinomyces*. Iodide of potassium is the remedy for this. Give one and a half drams of the drug daily in one dose dissolved in a pint of water until improvement is noticed. Then decrease the dose to one dram. Usually in about ten days the disease is cured.—Ed.

Devon Cattle.

Would like to know through your paper your opinion of the Devon breed of cattle, also where they can be bought.

E. J. PANNILL.

Henry Co., Va.

The Devon breed of cattle whilst not now very popular, is a breed that has many points of excellence to recommend it for certain sections. It is a breed that will do better on thin, rough, stony highlands than almost any other, as the cattle are easy keepers and very hardy. They make the finest of working steers, as they are more active than most cattle, and yet strong and wiry. The steers also make good beef, although they do not attain to a very heavy weight. They are also useful milch cows in such sections as we have indicated. M. B. Rowe & Co., of Fredericksburg, Va., advertise them in our columns.—Ed.

Utilizing Bones—Coffee Grounds—Soy Beans.

1. What is the most practicable and economical way to utilize bones for fertilizer?

2. Have coffee grounds any value as a fertilizer?

3. How do soja beans compare with cowpeas for broadcast sowing for improving the land and making hay? I am well pleased with the soja bean as a cultivated crop. The only drawback to the crop is the difficulty in cutting them, as I have not been able to cut them with a mower, but have to use a stub seythe.

I regard THE PLANTER as the standard of excellence in Southern agriculture, and look eagerly for its monthly visits.

J. W. BRYAN.

Wayne Co., N. C.

1. Bones are difficult to utilize for fertilizer in any other way than by grinding them in a mill, and this requires much power. They may, however, gradually be made available by making a trench in clay

ground and putting in a layer of the bones and then a layer of wood ashes until the trench is full, and then making them moist with water and keep them in this condition until they become soft and so that they can be mixed with soil.

2. We can find no analysis of coffee grounds. We do not suppose they have any fertilizing value other than as so much woody fibre, which, as it rots will add that much vegetable matter to the soil.

3. Soy beans make an excellent hay crop but even for this purpose they make a better yield sown in drill wide enough apart to allow of being worked once or twice. They will then on land of fair fertility soon cover all the land. They may be cut with an old short bladed mower, cutting one row at a time. We know several growers who keep their oldest fashioned mower for this purpose.—Ed.

Worms in Hogs.

We have a number of enquiries as to what to give for worms in hogs. Give half an ounce of turpentine for each hog in the feed every day for a week.—Ed.

Broom Sedge in Orchard.

I have a wine sap apple orchard which is badly taken with broom sedge, would it injure the trees to burn it?

R. T. MASSEY.

Westmoreland Co., Va.

We would not advise burning broom sedge in an orchard. It might result in serious injury to some of the trees. Plow the sod and keep the orchard in cultivation until July and then sow crimson clover and a few oats, say 12 pounds of crimson clover seed and three-fourths of a bushel of oats per acre. This will smother down all weeds and make a crop which will feed the trees. Let this crop die down on the land and then plow under, make fine, and seed to grass in August or September.—Ed.

Draining Land.

Will you kindly give me in the February issue of THE PLANTER the cheapest and best mode of under-draining wet land. I have used chestnut poles covered with strong chestnut plank which is convenient but muskrats can easily choke up a ditch or turn it when material of this kind is used.

Nelson Co., Va.

R. L. CAMDEN.

The only means of making a permanently good job of draining land is by the use of drain tile. These when properly laid with sufficient fall and good clear outlet will practically last forever and are rarely stopped up. The only thing which interferes with them are the roots of trees which sometimes go down

deep enough and find their way through the joints and then increase in size until they stop the drain. The roots of willows are usually the worst for doing this. The cost of doing tile draining depends largely on the facility for getting the tiles. Unfortunately they are not made in many places in the South and hence are burdened with heavy freight charges. If tiles are to be had at a near point the cost should not exceed \$20 per acre.—Ed.

Improving Mountain Land for Orchards—Seeding to Grass.

We have a mountain place some 1,800 feet elevation in Northern Virginia on eastern slope of Blue Ridge, soil red clay intermixed with gravel, with considerable quantity of loose stone on surface, which we are clearing of the forest growth and planting to apple and peach. We wish to keep up fertility without using commercial fertilizer and give good cultivation to the trees. Have tried cowpeas but they do not do very well, seems to be too cool for them. Corn ripens very slow and soft. The fodder makes good growth. Would Canada peas be likely to do better than cowpeas on this place? Have a lot of some ten acres we wish to get in blue grass to pasture our mules and cows. Would it be well to sow this to Canada peas and oats this spring, and sow rye with blue grass in August or September? SUBSCRIBER.

Rappahannock Co., Va.

The Canada Pea sown with oats will no doubt suit your conditions much better than the cowpea. Canada peas are natives of a cool climate and the difficulty we have in growing them successfully in the central plain and coast sections of the Southern States is occasioned by the great heat of the early summer. To grow them here they should be planted in January or February and be cut in May. In your mountain land you will grow them successfully sown in March or April and they may be either cut or grazed down. For your purpose of improving the land they should be grazed in the summer. Sow two bushels of peas and one bushel of oats per acre.

We would sow the blue grass in August after the pea crop has been plowed down and the land been well prepared. Sow the grass alone or with a very light seeding of rye. We prefer sown alone.—Ed.

Cross-breeding Sheep.

I am a breeder of Shropshire sheep and find difficulty in getting them to breed in time for early market lambs, and have been contemplating purchasing some Dorsets to cross the Shropshire bucks with.

Kindly tell me if the first cross could be used for early breeding with any success.

Florence, Md.

J. N. WARFIELD, JR.

We do not advise the cross breeding of Shropshires and Dorsets or indeed of any pure breeds. A cross of pure bred animals is always an uncertain factor. The prepotency of these pure bred animals is great and what the result of a cross under such circumstances may be no one can tell. As both Shropshires and Dorsets are very prepotent it is especially uncertain what the result of a cross would be. We would prefer to use Dorset bucks on grade Merino ewes rather than on the Shropshires to get the results desired. We know this to be a success and the second and third cross will give sheep practically Dorsets in appearance and early breeding propensity.—Ed.

Bermuda Onions.

Can you give me any information in regard to the Bermuda onion?

1. How are they propagated, from seed or sets like the hill onion?

2. Can you tell me how to plant and cultivate them.

A SUBSCRIBER.

Roanoke Co., Va.

Bermuda onions like all the Spanish and Italian varieties are grown from seed which may be sowed either in the fall or spring. The most certain way is to sow the seed in a gentle hot bed and then when the plants are big enough to handle to set them out on the bed where they are to grow in rows wide enough apart to allow of cultivation and about 4 or 5 inches apart in the row. When the plants are raised in the fall they should have the protection of a cold frame during the winter and should not be set out in spring until the weather becomes mild.—Ed.

Cocke's Prolific Corn—Maize.

Where can I get some Cockes Prolific Seed Corn and the price of it per bushel? Where can I get maize seed?

T. L. ASHBURN.

Northumberland Co., Va.

You will find Cockes Prolific Corn offered in our advertising columns and it can be had from T. W. Wood & Sons, Richmond, Va. Maize is simply the botanical name for corn.—Ed.

Cocke's Prolific Corn—Lime—Earliana Tomato.

1. Of whom can I get Cockes Prolific Corn, as I wish to plant some of it this year? I see it is highly recommended in SOUTHERN PLANTER. Of whom can I get the Spark's Earliana Tomato seed?

2. What is the difference in the agricultural strength in Lee's prepared lime, oyster shell and rock

lime? I wish to lime about sixty acres this spring and I wish to use the kind of lime which is best, taking into consideration the cost. P. S. SIMMONS.

Prince George Co., Va.

1. You will find Cocks Prolific Corn and the Ear-
liana Tomato advertised in this issue.

2. There is no difference in the chemical composition of rock lime and oyster shell lime. They are both carbonates of lime and either may be used with advantage. Lee's prepared lime is made from a private formula and we do not know its chemical composition but know that many farmers use it with success.—Ed.

Hog Pasture.

Will rape, if sown in February, mature sufficiently by the first of April to pasture hogs on and how long will it last if not grazed too closely? I have a two-acre lot which I wish to seed to something for spring and summer pasture for hogs. I wish to pasture them from about the first of April to the first of August. The entire two acres is under one enclosure. What would you advise? T. T. FRAZIER.

Durham Co., N. C.

We know of no single crop which you could now plant which would give you grazing for your hogs from April to August. If you had seeded crimson clover, oats, wheat and rape together in the fall on half the land this would have made grazing to June and the other half seeded to cowpeas in May would have given good grazing in July and August. Rape sown now should give grazing by April but the crop does not usually stand the hot weather of summer. Perhaps the best course would be to seed half the land in rape, five pounds to the acre broadcast, as soon as possible and then seed the other half to cowpeas or cowpeas and sorghum in May. Together this combination would give you the grazing you seek.—Ed.

Pecans.

1. I have about 10 acres I want to put to pecans. Would it pay me to get seedlings at \$6 per 100 and graft twigs from the best varieties into them, when I can get trees of the best varieties at 70 cents per 100?

2. Which variety would you advise me getting to realize the most from my orchard?

3. Can you give me the recipe for making grafting wax? J. R. REAVES.

Latta, S. C.

1. We presume you have made a mistake in this question. We assume that you mean "best varieties at 70 cents each." We would buy trees of the best varieties even at 70 cents each in preference to seed-

lings at \$6.00 per hundred. Seedlings are very uncertain in their production.

2. We believe you would realize more and more quickly from the trees than the seedlings grafted.

3. Grafting wax is made of three parts of rosin, three of beeswax and two of tallow, melted together.

—Ed.

Seeding to Grass.

We are working on a hillside with the object of seeding it in grass as an extension to our lawn. It has been washed by rain, leaving upper part of very poor, red soil. We are treating this hillside as follows:

Dumping wagon loads of compost made last year in piles convenient for spreading also making more compost from last year's fall of leaves. In these compost heaps we have used acid phosphates freely. A small lot of sheep in a moveable pen were started on the hillside the latter part of October. In addition to this the hillside is now about half covered with barnyard manure, which we haul and spread as convenient. We are still further hauling good soil from bottom land, where we can spare it, and placing in heaps ready to spread. Our intention is to plow shallow as possible in the spring, after spreading compost and soil, and follow plow with subsoiler and harrow. The article in your October number convinces me that lime should be applied, but I am at a loss to know the best time and method of applying it in view of the progress already made.

Any advice you can give will be appreciated.

Transylvania Co., N. C.

A SUBSCRIBER.

Now that you have got manure on the land it would not be wise to apply lime as it would release the ammonia which the grass will need. We think you will succeed in getting a stand and can then give a top dressing of lime next fall and harrow in lightly.—Ed.

Oyster Shells.

Would ground oyster shells be as suitable and as readily available for our coast soils as burnt and slacked lime?

F. M. SHEPP.

Harrison Co., Miss.

Ground oyster shells would be just as effective as ground rock lime but neither are so effective as burnt slacked lime. Ground rock lime is being used quite extensively in some sections and whilst slower in its action is being found effective. The grinding, however, requires to be very fine.—Ed.

Windbreak.

1. I live about eight miles east of Richmond and would like to plant some evergreens for a windbreak. What do you consider the most suitable for this cli-

mate? Will Norway spruce, hemlock or American arbor vitae do well here?

2. What bamboos are hardy in this latitude, where the scuppernon grape grows wild? Mr. H. Dreer states that *B. Turea*, *B. Metake*, *B. Nigra* and *B. Simoni* are hardy at Philadelphia.

Hanover Co., Va.

JOHN FLICK.

1. Norway spruce will answer best though it is not apt to be very long lived in this State. Hemlock will grow but takes a long time to make a break. There are one or two species of foreign arborvitae which have been recently introduced by the Department of Agriculture which appear likely to make good wind breaks. They are Italian species. The American arborvitae does not do well in the South.

2. We cannot advise you as to the bamboos. We believe the Department of Agriculture issued some information on these plants sometime ago but we can't put our hands upon it just now. A letter to the Department at Washington might get you this.—Ed.

Grass for Name.

Please give the English and Latin names of the enclosed grass. Also state if it is good for forage.

Richmond Co., Va.

M. C. LEWIS.

The botanical name of the grass is *Panicum clandestinum*. We cannot give the English name as it is known locally by various different names. It is not known to have any forage value but experiments will be made by the Department of Agriculture to test this.—Ed.

Kaffir Corn.

Please give me some information in the columns of your paper concerning the cultivation, harvesting and threshing of Kaffir corn. It is said to be raised extensively in Kansas. Why does it not figure more frequently among our crops here? How much does the grain weigh per bushel? Also kindly state the proper way to harvest and gather soja beans not for hay but for the beans? To revert to the Kaffir corn—is it safe to feed horses the grain in the plumes, unthreshed?

Middlesex Co., Va.

ENQUIRER.

Kaffir Corn is one of the non-saccharine sorghums. It has frequently been grown in this State, and with great success. We always advise that some should be planted for a forage crop, as whilst it is not quite such good feed as the saccharine sorghums, like the Early Orange or Early Amber, yet it is more certain to make a crop in case of a drouth. In the drouth sections of Kansas and other Western States it is largely taking the place of corn. The grain is as

good as corn. It is usually threshed like wheat, and the grain ground or fed whole. It is less wasted when ground, as unground much of it passes through cattle undigested. It will succeed anywhere in the South. It is planted, worked and harvested like corn, but may be dropped closer in the rows. The grain weighs 50 pounds to the bushel.

Soy beans are harvested for the beans by cutting with a short bladed reaper or scythe and set up in shocks to dry and cure out like wheat or oats.—Ed.

Stock on Wild Range Near the Seacoast.

I want to run a mixed herd of cattle, horses, sheep and goats on wild land with grasses, reeds, rushes and shrubs for pasturage. Part of the land is high and part low and wet. Do you think it would be well to have such a mixed herd?

Hyde Co., N. C.

CLOSS GIBBS.

This is a subject on which we hesitate to advise, as its success will depend so largely on local conditions, as to pasturage, etc. We doubt, however, whether it would be advisable to attempt to run sheep on such a range. A limited number of cattle, horses and goats might succeed.—Ed.

Forage Crops.

My farm is situated at the junction of and between the James and Warwick rivers, Mulberry Island, Va. Upon it has been raised, for many years, corn, peanuts, potatoes, etc., also live stock such as sheep, cows, horses and hogs. Having set aside sufficient land to raise corn for horses, hogs and poultry and wishing to simplify the farm work kindly request you to let me know what you consider best to plant, as forage, where corn or peanuts have been raised.

Warwick Co., Va.

P. LEDERHOS.

Plant soy beans, cow peas, sorghum, teocinte and millet (Cat Tail, German and Hungarian). Any or all of these crops will make fine forage.—Ed.

East India Giant Clover.

I would be glad to learn about the "East India Giant Clover" (*Polygonum sacalinense*). It see it described in *Encyclopædia Britanica*, Vol. 26, page 680. Where could I get the seed of it?

Halifax Co., Va.

WM. M. PANNERBAKER.

We know nothing of this plant. Write the agrostologist of the Department of Agriculture at Washington for information on the subject.—Ed.

Varieties of Apples and Peaches to Plant in Western North Carolina.

Would be glad to know your opinion of the best apple trees to plant in these mountains, Brevard (20

miles from Hendersonville), King, Albemarle Pipin, Winesap, Red Flower (yellow), Maiden Blush, Limbertwig.

What is the best peach tree for this locality?

Transylvania Co., N. C.

H. E. TENER.

For summer apples we would advise Early Harvest, Red Astrachan and Yellow Transparent. For late summer and early winter, Bonum, Carolina Beauty and Rome Beauty. For winter, Arkansas Mammoth Black, Ben Davis, Limbertwig, Winesap, Nansmond Beauty and York Imperial.

Peaches for very early, Alexander and Sneed. For early, Bishop and Early Crawford. For medium, Elberta, Oldmixon (Cling and Free, and Stump. For late, Bilyeu and Smock.—Ed.

Cotton Seed—Cotton Seed Meal—Stable Manure.

Kindly give the relative value of cotton seed and horse stable manure as a fertilizer. Is a ton of cotton seed worth as much as a fertilizer as an equal quantity of cotton seed meal?

Perquimans Co., N. C.

THOS. N. WHITE.

The analysis of cotton seed gives on an average 3.13 per cent. of nitrogen, 1.27 per cent. phosphoric acid, and 1.17 per cent. of potash. The analysis of an average sample of cotton seed meal gives 6.64 per cent. of nitrogen, 2.68 per cent. of phosphoric acid and 1.79 per cent. of potash. The analysis of an average sample of stable manure gives 0.50 per cent. of nitrogen, 0.60 per cent. of potash, and 0.30 of phosphoric acid. The statement, however, of the actual content of the chemical plant food in stable manure does not give a true estimate of its actual value as an improver of the soil, as in addition to the value of the chemical plant food manure adds humus to the soil, which is often more valuable in the improvement it effects than the actual plant food supplied. Manure also promotes the growth of microbe life in the soil, and without this there can be no great fertility.—Ed.

Book on Truck Growing—Fertilizer for Cabbages, &c.

1. Will you kindly tell me what is the most complete and best book on garden work for Virginia and what is the price and where can I get this book?

2. Will you tell me how much night soil and hard wood ashes to mix to apply per acre in the drill for cabbage and for all kind of garden vegetables?

Dinwiddie Co., Va.

WEBSTER.

1. Truck farming in the South, by Oemler, is about the best book published for this section. Price, \$1.00. We can supply it.

2. Wood ashes should not be mixed with manure or night soil, but be applied alone. When mixed, they have a tendency to waste the ammonia. They are valuable mainly for the potash they contain (about 5 per cent.). They may be applied with advantage up to 1,000 pounds to the acre for vegetables. Night soil contains 0.80 per cent. of nitrogen, 0.30 per cent. of potash, and 1.40 per cent. of phosphoric acid. It is not, therefore, very valuable as a fertilizer, and should be supplemented by some nitrogen and phosphoric acid when used with wood ashes to make a balanced fertilizer. Mix with it 300 pounds of acid phosphate per acre, when applied, and give a top dressing of 100 pounds of nitrate of soda per acre when the plants start growing and then you will be likely to make vegetables of all kinds.—Ed.

Improving Land.

Is there any quicker way of improving land by crop rotation than sowing rye in the fall to be turned under or pastured down in June, then sow in peas and turn under or pasture down in the fall?

Roanoke Co., Va.

E. E. ENGLEMAN.

Yes. You can improve the land faster by growing crimson clover or hairy vetch sowed with wheat, oats and rye mixed in the fall. Rye adds nothing to the soil except some vegetable matter, but conserves any nitrates in the soil, and to that extent only is useful as an improver. Crimson clover and hairy vetch add nitrogen to the soil taken from the atmosphere, and more vegetable matter than rye. These crops can be plowed down in May or June, or can be cut for forage, be made into hay, or be grazed off, and then be followed by cow peas or soy beans, which will add still more nitrogen to the soil as well as vegetable matter, and thus rapidly and permanently improve the land. To make the best progress, these leguminous crops (clover and vetch) should be helped with some acid phosphate, say 200 or 300 pounds to the acre, so as to ensure a heavy growth, and thus smother down all weeds and shade the soil. The shading is important, as it largely tends to the acquisition and conservation of nitrogen. A dressing of lime, 25 bushels to the acre, applied after the cow peas or soy beans are turned down, and before seeding the crimson clover or hairy vetch, will also greatly help the work of improvement by creating an alkaline condition of the soil, which is conducive to the multiplication of soil microbe life, and to the growth of clover especially. We have known a piece of land so improved by the growth of these crops for two years as to yield an increase in the corn crop the following

year of 25 bushels, and of wheat 10 bushels, with a good stand of grass and clover to follow.—Ed.

Tobacco Fertilizer.

Please give amount of ammonia and potash (and in what form) to be added to Peruvian Guano to make it a well balanced fertilizer for tobacco.

OLD SUBSCRIBER.

Prince Edward Co., Va.

The only thing needed to be added to genuine Peruvian Guano to make it a complete tobacco fertilizer, and even that is not absolutely necessary, is some sulphate of potash. We would add 50 pounds of sulphate to the ton of Peruvian Guano. For some years it has been difficult to get Peruvian Guano, but Messrs. Mortimer & Co., of 13 William street, New York, are now appointed agents for it in this country, and are importing it in ship loads. We have just received particulars of the analysis of a cargo just landed. As tested by the Pennsylvania Experiment Station, this analyses 16.22 available phosphoric acid, 4.82 potash, and 4.37 ammonia, with, in addition, 7.20 insoluble phosphoric acid. The insoluble phosphoric acid in Peruvian Guano is much more readily available than in acid phosphate, and is comparable with the phosphoric acid in bone in this respect. We believe this Peruvian Guano will grow good tobacco without any addition of potash on our lands. Messrs. Mortimer will gladly quote prices delivered in this or other States on this guano, and on all other chemicals required for mixing fertilizers.—Ed.

Sores on Mules' Backs.

Can you recommend any remedy for knots and raw places of long standing on mules' backs?

FRANK PURYEAR.

Chickasaw Co., Miss.

If the wounds are of so long standing as to have become sit fasts, the hard portion must be dissected out with a knife and then the wound be treated with a weak carbolic acid lotion. Keep the harness from pressing on the places by pads until healed.—Ed.

Brussels Sprouts.

Please tell me in your next issue when and how to grow Brussels Sprouts from seed.

Alexandria Co., Va.

A. BOWIE.

Raise like late cabbage plants and set out, manure and cultivate just like late cabbages.—Ed.

Weeder in Cotton.

I would like to know if a "weeder" can be used with safety and to advantage in a cotton patch. If

so, when? The flat tooth is the sort I have. My experience with cotton is that when young it is very tender, easily bruised and thrown down, and when down seldom regains the erect position. Would not running the weeder over field just before cotton comes up kill many germinating seeds and result in a bad stand?

GEO. S. BAKER, JR.

Franklin Co., N. C.

We should hesitate before putting a weeder into a cotton field. The young plants are too tender and too easily buried to risk such rough usage.—Ed.

Improving Land.

I am just starting in the farming business, and would be very highly appreciative of some advice relative to same. My farm, consisting of about 500 acres, 100 of which is cleared, but only about 60 in a tillable condition; has been "miss-farmed" for the last twenty years by tenants, and consequently is in anything but good condition. Have both red land and sandy land, former predominating. Planted 15 acres in wheat, 5 in oats, and used 200 to 250 pounds potash mixture, 10-2 and 12-3 per acre. Was advised by farmers in neighborhood that I was using too much. They use 100 to 150 pounds per acre. Any general advice as to crops, seeds, etc., that you may give me will be thankfully received.

THAD. S. TROY, M. D.

Randolph Co., N. C.

If you will carefully read and follow the advice given each month in the *PLANTER* you will soon see an improvement in your land, and get profitable crops. What your land needs more than fertilizer is humus in the soil. Do not attempt to make staple crops until you have improved the land by growing cow peas, crimson clover and hairy vetch. When you have got plenty of humus into your soil you can profitably use commercial fertilizer in the form of acid phosphate, not at the rate of 100 or 200 pounds to the acre, but at the rate of 500 pounds to the acre.—Ed.

Cow Pea Hay.

I wish to sow a crop to cut for hay. Could I sow a mixture of cow peas and oats? If so, which would be best, spring or winter oats? Please answer in next issue.

NEWCOMER.

Nottoway Co., Va.

You cannot sow cow peas and oats together. Oats should at latest be sown in March, better in February, or better still, be sown in the early fall in the South, whilst cow peas cannot be sown until May. They will not grow until the ground becomes warm. For a hay crop, cow peas and sorghum can be sown together. They make good feed.—Ed.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The long hard winter we are passing through has caused a complete suspension of all outdoor work and where in an ordinary winter much of the work of preparing the land for the spring crops has been already done, now everything is as it was left in the fall. This is going to cause a great accumulation of work and it will require the strictest economy of time to be exercised when once the season opens. We trust, however, that the work of preparing compost and manure for the crops has been receiving attention during the hard weather. This is work that could well be done and with good effect on the subsequent results. Farm yard manure, woods mould leaves should have been gathered together in heaps in the different fields and have been well mixed together and had acid phosphate and muriate of potash mixed with them. These mineral fertilizers are much more effective when thus mixed than when applied separately just previous to the planting of the crop. They require time to become assimilated with the other manure and soil to do their best service. Farm yard manure whilst the most valuable of all forms of fertilizer in that it supplies both plant food and humus to the soil and also tends largely to the introduction of microbic life into the soil, yet lacks in the mineral forms of plant food to be a full ration of feed especially for truck and garden crops. Up to 1,000 pounds to the acre of acid phosphate and 200 pounds of muriate of potash to the acre may with advantage be applied along with a heavy dressing of farm yard manure and compost to land intended to be planted to all vegetable crops. In addition to these nitrogen in the form of nitrate of soda, say from 100 to 150 pounds to the acre, may also be applied with advantage to all crops except English peas and snap beans. For these two crops only a light dressing of nitrate should be given as it is, has a tendency to make them run too much to vine. Indeed these two crops almost invariably do best on land manured for a crop the previous year as on an Irish potato fallow or a cabbage field. In such a place they will make a good yield without any further manure being applied.

It is too early yet to plant any crops except in Tidewater Virginia and Eastern North and South Carolina. In these sections English peas and Irish potatoes may be planted during this month if the weather becomes mild and the land is dry enough to work freely, but do not attempt planting on wet land

nor even working the land. Land worked wet will show the result all through the crop season and can never be made a satisfactory seed bed. English peas should be planted in drill 2 feet apart, and be given a good covering of soil, say 4 or 5 inches. Scatter the peas thickly in the drill and tread or roll firmly into the soil before covering. Irish potatoes should not be planted much before the end of the month and not then unless the weather is mild. They are very susceptible to damage from frost if they break through the land before freezing temperatures are past. Instead of planting them too early it is a good plan to get out the sets and spread them thinly on a dry barn floor where frost will not hurt them and there let them commence to sprout. They will make short hard sprouts which will not easily damage when handling them for setting and will then come up much more quickly when planted in the soil. The land for this and indeed all other truck crops should receive the best of preparation before planting. What we have said in reference to this matter of preparing land in our article on "Work for the Month" for the farm applies with still greater force to truck crops. More depends on the perfect preparation of the land than on the fertilizer. Irish potatoes are one crop which can usually be grown more successfully with commercial fertilizer than with farm yard manure. Farm yard manure is especially apt to cause scab on the tubers and will certainly do so wherever there has been scab on the last crop and any of the vines or small potatoes have got mixed with the manure. Wherever there is any indication of scab on the sets they should be dipped either in a solution of formaline or corrosive sublimate before being planted. When using the corrosive sublimate solution be careful to keep it and the dipped tubers out of the reach of men or animals as the solution is very poisonous. The proper strength to use the corrosive sublimate solution is 2 ounces of sublimate to 15 gallons of water. Dissolve the sublimate in hot water and then add cold to make up the quantity. The solution may be used for dipping repeated lots of potatoes until all used up. Dry the sets and then cut them. Cut the sets just before planting and not in quantity before needed. Do not cut to less than two eyes. As a fertilizer for the crop mix

300 pounds of nitrate of soda,
600 pounds of cotton seed meal or fish scrap,
800 pounds of acid phosphate (12 per cent.),
300 pounds of muriate of potash.

to make a ton and apply at the rate of from 500 to 1,500 pounds to the acre. If only 500 pounds or less is used apply in the drill mixing well with the soil before dropping the sets. If more than 500 pounds is used apply broadcast.

Sow small patches of lettuce, radishes and other early salads in sheltered spots or where they can be protected with brush or mats in case of frost.

Lettuce in frames should be getting ready for market. Give air in all mild weather but see that frost is excluded. As the plants are cut fill in other plants from the fall sown seed beds.

Asparagus beds should be worked over and be covered with well rotted manure and good soil to the depth of 10 or 12 inches. New beds may be set out in March. The land should be got ready now by being deeply worked and the trenches be thrown out to the depth of 2 feet if possible by running the plow two or three times in them, throwing out the soil with a shovel. Throw the top soil to one side and the bottom soil to the other side of the trenches. Put two or three inches of the top soil into the bottom of the trench and set the plants on this and cover lightly with more of the top soil then spread the bottom soil between the trenches. The trenches should be from 4 to 6 feet apart. Set the plants as soon as received from the growers.

Spinach and kale may be sown where the crop is to mature towards the end of the month. Sow in rows 2 feet apart. Cabbage seed may be sown in cold frames for plants to follow the fall set crop.

Prepare material for making hot beds for raising tomato, egg and pepper plants.

PECAN TREE NOT BEARING NUTS.

Editor Southern Planter:

Inquiry having been made through your journal by Mr. J. W. Lewis, of Horry county, S. C., for some remedy by which unproductive pecan trees can be made to yield abundantly I take pleasure in offering a remedy which I have tried with splendid results. Some time before the sap begins to rise he should take an axe and chop the tree *perpendicularly*, several times, carefully, however, so that no damage is done

to the tree. Pecan trees become hide-bound and this is the cause of their failure to bear. Chopping relieves the congestion, and enables the tree to produce.

I have a tree probably 50 years old, which for a number of years scarcely bore at all. Two years ago I chopped it slightly, as a test, and it bore probably three pecks of pecans. Last year I chopped it again and the result was a yield of about a flour barrel of pecans. January or February are good months in which to chop trees. I have chopped pear trees also, with good results. If the South Carolina correspondent desires more explicit information he can write me.

JAMES B. LLOYD.

Tarboro, N. C.

PRUNING AND TRAINING FRUIT TREES.

Editor Southern Planter:

A safe rule to follow in pruning trees is to cut no limb off without being able to give a good reason for it. One should also be able to predict the effect such an operation would likely have upon the tree.

Pruning is the operation of taking off undesirable parts. Training is directing the growth of succeeding branches. Therefore, correct ideas concerning training should come before successful pruning. Each tree and vine presents a separate and distinct problem to solve before the knife should be used. Too many people begin at the trunk and prune upwards, whereas they should begin at the top and prune downwards. The greatest mistakes are made, however, in pruning the young tree before it begins its first year's growth. The form of top desired for each fruit and locality should be decided upon before the orchard is set. For the untrained man, this is not an easy matter to decide. The crown or top should be started at the point best suited to the tree. If the location is rather high and dry the crown should be started much lower down than with trees growing in lower, richer and more moist soils. The tops of forest trees in near by forests will give some idea. The peach tree will require a different method of pruning from that of the apple, since the fruit is borne on one year old wood, and consequently, will be further away from the trunk of the tree each year, unless held back by careful pruning, and finally, will all be produced on the ends of long limbs. These split and break off. I like the method of "heading back," especially for the peach. The tree is better enabled to make new bearing wood for next year, the fruit is thinned, the liability of splitting and breaking is much lessened,

the fruit is borne nearer the ground where it is easier to gather, and the branches are made to grow more stocky.



Young tree as it came from the nursery.

The young tree as it comes from the nursery is tall and slender, frequently it has no side branches. Many growers think the tallest tree is best, which is often a serious mistake. Such trees grew in a crowded condition and were forced to grow in a switch-like form. When set out in an orchard their surroundings are entirely different, consequently they are apt to reform their present top by throwing out branches lower down. If left alone, the top is apt to be very ugly. The wind is apt to blow the young switch-like tree about and do it great injury.

I have always found it best to cut the young top back very much when setting. If an apple, I would cut the top back within about two feet of the ground for Virginia; if a peach, I usually cut it back within a foot and a half of the ground—frequently leaving a single straight stub. The roots should also be cut within about six inches of the trunk—if a peach I would cut closer. If very young trees are used, the side buds will usually come out and start a good top. Older trees frequently do not do so well and the grower may have to leave the top where the nurseryman left it. Very little pruning will be required at the end of the first year, but it is quite important to go over the orchard and shape up the tops to conform to the ideal adopted.



Tree pruned and ready for the orchard.

At the end of the second year, visible results of the pruning and training will be plainly evident. An open spreading top to carry a heavy load of fruit should now be constantly worked for. Sun light and air are extremely important for highly colored fruit and for excellence of flavor.

In many orchards of the State were found last fall a large per cent of fruit that was off in color, size and flavor. This was due to the trees being overloaded and much of the fruit not having enough sun light. On more open and branching tops, the crop was much finer. I never saw so many instances where the ill effects of bad pruning were so plainly marked

as were seen last season. Begin to shape up the tops now while the lesson is still fresh in the mind. It is



Effects of fruit at ends of long limbs.

often claimed that we should not prune in the winter. Very little damage is apt to occur where small limbs are cut off. Serious damage is apt to follow pruning if done when the sap is active. A coating of white lead paint over the wounds is excellent.

After trees become several years old, severe pruning should not be given the trees during any one single season. I have seen some good orchards ruined by a severe pruning. The tops should be opened up and cut back gradually.



Three-year-old tree after pruning.

In cutting off limbs, the surface of the cut should be made parallel with the body of the tree, and scarco-

ly ever inside of what is known as the "collar." This will enable the cut to "heal over" better.

Some drawings I have had made from trees grown in my experimental peach orchard may bring out the points more plainly.

R. H. PRICE.

Montgomery County.

TRUCKING.

This term is generally applied to growing any and almost all kinds of vegetables for table use. The truck farm is supposed to be a small farm rather than a large one. It is expected to yield very large crops, and is generally looked for near a large city or along the sea coast. Of course such a farm is expected to be richer than ordinary farms for growing the cereals, cotton, hay and rice.

But in the rapid development of this country, which has built up cities and factories almost like magic, the unexampled growth of the commercial industries has brought about changes in the trucking business. Thousands are now engaged in this kind of farming without the advantage of special location, or special markets, or special training.

The high prices of the various vegetable crops have induced them to try to grow them. The high price of land near the cities has compelled them to locate farther off. But the increased facilities of transportation have changed this into almost a help instead of a disadvantage.

It is for these thousands of beginners that we write. We do not expect to enlighten the old hands who have been taught this kind of farming.

As we have said, the truck farm is expected to be rich. Near the cities immense quantities of manure can be obtained for this purpose, but those who live farther off cannot get it this way. They cannot make the land rich, hence they must do the next best thing. They can and must feed the crops with highly concentrated and readily available plant food. They need ammonia, phosphoric acid and potash. They need the ammonia to make the plants grow, the phosphoric acid to increase the fruit, and the potash to form starch and sugar in plants, and as size and fruit are both dependent upon starch and sugar, we see that potash has an important function to perform.

Proper feeding makes the crops strong so as to resist diseases of all kinds. As a feeble person is liable to contract all contagious diseases, so is a feeble plant. We see this proven very often—one man's wheat or oats resist rust and make a good crop. Another man's, on an adjoining farm, take rust and are ruined. The vigorous healthy plant is more or less immune or resistant. Again, the price of trucking crops is always good in the early season and lower later on. The healthy plants can be expected to come in early and thus give the trucker a higher market.

Good preparation, plenty of fertilizers, good seed, and rapid culture will bring success.

Study what your market needs and then what you know how to grow to the best advantage and you will find truck farming an enjoyable life. One great advantage of this kind of farming is that it brings in money all the time. The trucker does not need to run long accounts, and pile up debts, and give mortgages.

JAMES B. HUNNICUTT.

THE LIME SULPHUR WASH FOR SAN JOSE SCALE

Editor Southern Planter:

By some means or other, the amount of sulphur given in the formula for lime-sulphur wash printed in *THE PLANTER* last issue, was not exactly correct, as used by the Virginia Experiment Station. The exact formula taken from bulletin No. 141 on the "Lime-Sulphur Wash" is as follows:

Lime (unslaked)	30 pounds.
Sulphur (flowers)	30 pounds.
Salt	10 pounds.
Water	100 gallons.

Some extracts are made here from the above mentioned bulletin in regard to making the wash. "Put 4 to 5 gallons of hot water in an iron kettle (20 gallons capacity), add 15 pounds lime, stir with wooden paddle so as to spread it about; then as soon as in full ebullition from slaking add 15 pounds sulphur and mix briskly with lime, adding boiling water as needed to bring entire mass into a thick paste. Work the mass into a perfectly homogeneous paste, then add water enough to make 10 or 12 gallons, and boil for 30 to 40 minutes. It is better to add hot water, as the cooking will thus proceed more rapidly, but if cold water is used the resultant wash will be the same. Add the salt, 5 pounds, when the paste is diluted. When the wash is cooked, strain and dilute to 50 gallons. This will be best accomplished by pouring it into the barrel already partly filled with water. Hot or cold water may be used at convenience of the operator, as there will be no marked difference in the result.

The quantity sufficient for 100 gallons of wash may be cooked in a 25-gallon kettle but this is rather concentrated and needs attention. In whatever manner the wash is cooked, it should be stirred occasionally. Small quantities for use on a few trees can be made in small iron kettles. * * * The cost of the ingredients to make the lime-sulphur wash by the above formula is about 1 cent per gallon, which renders its abundant use on trees very cheap in comparison with soap or the kerosene washes. It is very important to strain the wash as it is run into the tank or barrel."

Montgomery county.

R. H. PRICE.

Live Stock and Dairy.



AN EXPERIMENT WITH ABERDEEN ANGUS STEERS.

Editor Southern Planter:

The steers shown in illustration were procured as calves in Illinois and immunized by inoculation, to Texas fever. Over forty head were thus successfully immunized. Of these, 15 were steers and have been since fed preparatory to marketing them in Chicago. They are now a little over two years old. The feeds used were the by-products of our three great staples—cotton seed meal, rice bran and molasses. In addition they have had the run of the pastures in summer and home raised hay in winter. Except when heavily infected with ticks in September, they have made satisfactory gains and they average nearly 1,500 pounds a piece. Cotton seed meal has cost \$20 to \$24 per ton. Rice bran \$8 to \$13 per ton and molasses 3 to 5 cents per gallon of 12 pounds.

The experiment has demonstrated the ability of these home products, to make as fine beef as can be made upon the best blue grass and corn fields of the Middle West. A bulletin with full description of

the animals, feeds and gains will be given later. These animals were sent to the International Stock Show at Chicago.

W. C. STUBBS.

Experiment Station, Baton Rouge, La.

Since the foregoing was in type we have a letter from Dr. Stubbs informing us that the steers were sold on the market at Chicago and brought \$5.65 per 100, the top of the market. This demonstrates conclusively that the South with its refuse feeds can make as good beef as the West with its best feed. Why not do so and make this refuse into dollars?—Ed.

HOG RAISING IN THE SOUTH.

Editor Southern Planter:

Friend Mercier handed me a communication from you in regard to "those cheap hogs" of his neighbors, whose methods he used to illustrate his article on "Farming as a Business," (published in the November issue of THE PLANTER).

I rather think he would have been more careful

about jumping into the frying-pan had he known that he would be called upon for the facts, but as I think a great deal of neighbor Mercier, I will try to help him out of the difficulty.

I am a Northern man who came South for health and a milder climate, and am engaged in building up one of those old, run-down plantations which originally was good soil but which has been skinned and re-skinned by the raising of cotton exclusively, until that which was in cultivation "would not sprout peas," as they say, and I am also trying to demonstrate to the Southern farmer that he can make a living without depending entirely upon cotton.

The crops I grow are chiefly oats, peas, soy beans, peanuts, sweet potatoes, corn, vetch, rape and rice by irrigation, and I feed these crops on the place to cattle, hogs and Angora goats.

I mention these crops as they play a very important part in the raising of cheap hogs.

I am doing but a small business in the raising of hogs, but generally have about one hundred head most of the time.

As to the methods you asked for, I will try to give them as clearly as possible.

My stock is a cross, produced by crossing thoroughbred Poland China sows with a thoroughbred Chester White male. My reasons for crossing these two breeds are that the crossbred hogs have the easy fattening qualities of the Poland China, and the ability to rustle and graze of the Chesters, and the cross also produces an animal with a very deep side and a heavy ham. The crossbred hogs are all white, and a white hog dresses much nicer than a black one.

I breed the sows to farrow in October and November, and feed them on rice polish and wheat bran mixed with water, and give them the run of the pea and sweet potato fields.

As soon as the pigs are old enough to eat I take the grain from the sows and give to the pigs at the rate of half a pound per head each day until they are six months old, and let them run on the fall sown oats until March; then they are taken off and allowed to run on oats, rape, and other crops sown expressly for them. I then put them on crops of speckled peas and sorghum, then cowpeas, peanuts, sweet potatoes, rape, etc.

When the pigs are six months old I feed them grain at the rate of one pound per head per day until they are put up for finishing, when I feed four or five pounds of rice polish or corn per day for four to six weeks, when they are ready to kill and fat enough for any one, and weigh from 250 to 300 pounds gross.

I do not claim that larger hogs cannot be grown in the same length of time, but I do claim that hogs of the same weight cannot be raised at much less cost. The cost of raising varies from two to three cents per pound gross according to the seasons for growing crops and the amount of grain used in finishing. This year the fall crops were short on account of extremely dry weather, very little rain falling after July.

As soon as the pigs are weaned the sows are turned into the fields and pastures and receive no more grain until the next litter comes. Some may ask why I do not raise two litters a year. My reasons are that the cost of keeping the sows in good condition to raise two litters would be much greater, and it would take much more grain to make the spring pigs large enough by fall to make into bacon and ham than is required for the fall pigs, which have grown slower and cost less. I buy most of the grain I feed, and find that rice polish is the best and most economical I can buy.

Three great requisites in raising cheap hogs are, plenty of range, shade and water. It also needs planning of crops so as to keep a constant supply of green food. One needs, too, a half mile of panels or hurdles for movable fences, so as to feed the crops successfully without waste. It is useless to think of raising hogs for cheap meat without these necessities.

The writer has grown hogs in Iowa for years and can truthfully say that hogs may be grown in the South by these methods at less cost than in the North.

Then why not, brother farmers, raise at least the meat needed on your own place, and stop this wasteful dependence on the North for your pork, when you can raise a better article than you can buy, and at much less cost.

Another important item is the restoration of the soil by raising these crops and feeding them on the land, and then returning to the soil 56 per cent. of the grain fed. This will soon bring up your depleted soil to such a condition of fertility that it will produce a paying crop of cotton again and I know of no method of farming that enables a man to come so near "eating his cake and keeping it" as this.

The wanton depleting of the soil by washing and the utter disregard by most farmers of the destruction of the lands by the present methods of farming, are among the gravest questions that confront the Southern farmer to-day, and until we give up the present one crop system of farming and produce more of what we consume and purchase less, we need not expect permanent prosperity.

Wilkinson Co., Miss.

CHAS. L. DEWEY.

HEREFORDS AT THE INTERNATIONAL STOCK CHOW.

Editor Southern Planter:

Hereford cattle scored a complete triumph at the International Stock Show, Chicago, held recently and it goes to show the prepotency of Hereford blood, when Col. Ferguson, of Perth, Scotland, the judge of the fat cattle, himself a breeder of Angus cattle, awarded the grand championship of the show to the grade Hereford steer, "Challenger," over an Angus bullock.

"Challenger" was sired by a registered Hereford bull, "McGinty," and his dam was a cross bred Holstein-Shorthorn cow. He had the form of a Hereford, white head and white on back, his body being a blue gray, and weighed 1,750 pounds.

The grand championship for ear loads of fat steers was won by the Herefords, they being sired by registered Hereford bulls and were yearlings, weighing over 1,100 pounds. They were bred, fed and exhibited by the same man.

The Herefords won in almost every class where they competed, and beside winning with the champion steer, also won the grade bred class.

It was generally acknowledged that in the exhibition of breeding cattle, the Herefords were much more uniform in condition and quality and the development of the young stock was the admiration of all.

The fact that the grand champion steer "Challenger" was selected, fed and exhibited by the Nebraska Experiment Station and that the reserve steer, "Clear Lake June 2nd," was fed and exhibited by the Minnesota Experiment Station, is worthy of note, as the grand championship was won in 1902 by the Iowa Experiment Station, and it illustrates the fact that successful feeding by individuals must be done with some regard to scientific principles and not at random, and also illustrates the wonderful work that is being carried on by the Experiment Stations, and that they combine practical results with scientific teaching.

The great number of thoroughbred sires that have been brought into Virginia in 1903 is the best indication of advancement in agricultural methods. It is to be hoped that the value of these thoroughbred sires will be so generally appreciated that their importation will be greatly increased during the forthcoming year.

E. G. B.

Clarke Co., Va.

Challenger, the champion steer mentioned above, was bought out of a lot of cattle in a feeding yard in

April, 1903. He was at that time very wild and cost \$5 per hundred or just about \$65. Professor Smith, of the Nebraska Experiment Station, says of his feeding:

"On the 15th of April we began feeding this steer and fed him for about six and one-half months, during which time we made a total gain of 550 pounds. During the last two months he has increased just 280 pounds, until this week we showed him here in the pink of condition.

"For the first two months we fed a ration made up as follows:

	Per cent.
Corn	60
Oats	15
Bran	10
Oil meal	15

"After the first two months, during which time he was gradually worked up till he was in feeding condition, the amount of this ration was varied and increased according to his capacity, as well as that of the other two steers that were fed with him. At the beginning of the third month we fed a ration made up as follows:

	Per cent.
Corn	60
Oats	20
Bran	15
Oil meal	15

"As the feeding progressed we gradually cut down the feed of bran and increased the oilmeal feeding. However, this change was made very gradually, as you may understand. After September 1 we had increased the oilmeal in the ration until his feed was made up of 20 per cent. of the oilmeal.

"On October 1 we began the feeding of sugar beets. At first we fed two pounds per day, but gradually increased until we were feeding the steer ten pounds per day of sugar beets.

"As a roughage we fed alfalfa and prairie hay. The former, however, was fine, being practically the leaves of the alfalfa. Both with grain and the roughage the limit of feeding was the steer's capacity.

"The feeding of Challenger and his two mates was done by Charles Shumat, who came to us three years ago with no experience as a feeder, having previously been a brakeman. We have carefully calculated the amounts of the rations and have left the execution in a large measure to Herdsman Shumat, to whom we owe a great deal for this steer's success. I watched the steer very closely, and particularly during the last part of the feeding, and paid particular attention to the dung to note any unfavorable changes, but there were none, and the feeding progressed with entire satisfaction to Professor Burnett and myself, and the favorable development of the steer. During the later

stages of feeding this steer readily consumed twenty-five pounds of grain per day with comparatively little effort. I lay the success of this steer's feeding capabilities to his excellent form, coming from good breeding and a strong, active digestion."

POLLED ANGUS CATTLE—TEXAS FEVER TICKS.

Editor Southern Planter:

I notice in the comparative table given in a late issue of *The Breeders' Gazette*, showing the number, etc., of thoroughbred beef cattle sold last year at public sales, a report very favorable to the Aberdeen Angus cattle.

This table gives the average price realized for all the beef breeds and is as follows:

Shorthorns	\$174
Hercfords	\$172
Aberdeen Angus	\$220
Galloways	\$116
Polled Durhams	\$155
Red Polls	\$145

From this it appears that the Angus did better than the best of the other beef breeds, by more than 25 per cent.

The extent to which the Angus are gaining in favor with the breeders of thoroughbred cattle, with the range people, with the feeders and last, but most important the butcher, should give encouragement to those who have been predicting this outcome for several years.

I wrote you last year about the probable efficacy of salt and sulphur as a preventive of Texas fever, which you very kindly published with the foot note that you did not have much faith in it. I am still as firm as ever in that belief, if the mixture is kept constantly before the cattle in covered troughs for shelters, from May 1st to October 1st for this latitude, and access given to no other salt during that time:—Though my cattle run in old fields they have ticks of no sort on them.

I beg to call your attention to the fact that the U. S. Bureau of Animal Industry now recommends the use of this mixture as a precautionary step against the Texas fever.

Now if such a simple thing is efficacious, what is to prevent the complete extermination of the fever tick from the South, if the agricultural and secular press will take it up and publish it every year. Its efficacy I suppose should be proven first by government or State experiment, which would be an easy matter and could be done in more than one way.

In sections of this State and I suppose everywhere in the South there are certain fields in which the Texas fever prevails whenever susceptible cattle are pastured on them.

I would suggest that a lot of such cattle be put on

sulphur the first of April, and be put in one of those pastures the first of May, giving the sulphur time to saturate the system before the cattle are exposed; that another lot of cattle which are susceptible be placed in the same field and that this lot be given salt without sulphur; that each lot of cattle be penned to itself at night and each receiving in the pen the sulphur or the salt without sulphur, of course neither salt nor sulphur to be given in the field.

Another way to test the matter would be to give the salt and sulphur mixture for one month and then place on the cattle thus treated a sufficient number of the fever ticks to give the disease, and continuing the sulphur as long as the animal carries the ticks.

I would also suggest that when the spring opens you suggest this preventive and request that all who use it or have used it in the past will give the results in detail in the late fall.

The success of its use depends on keeping the mixture constantly before the cattle during the spring, summer and early fall months, so that the system will be saturated with it all the time. Even if a cattle owner has only the common tick he should use this preventive of ticks getting on cattle, as they sap the blood of the animal, and the sulphur is a harmless substance.

I would not take so much of your time with this, but I realize the importance of stamping out the tick fever if it can be done, for the land and cattle owner of the South.

A STOCKMAN.

Pluranna Co., Va.

We are strongly in favor of the use of sulphur along with the salt for all cattle as it undoubtedly will largely tend to keep them free from ticks of all kinds, and whilst all ticks are not dangerous like the Texas fever tick, yet they all tend to make cattle less thrifty and are a heavy drain upon the system. Sulphur is no doubt objectionable to the Texas fever tick and cattle whose systems are thoroughly saturated with it will no doubt be less infested with the ticks and therefore less liable to suffer from Texas fever, but we have seen no such results reported as would lead us to advise any stock owner to rely upon its use as a specific for the fever. The only way to get rid of Texas fever is to get rid of the ticks altogether by keeping cattle off the pastures for at least six months and thus starve the ticks to death. This can be done by cleaning one pasture each year until all are cleared and then keeping them clean by seeing that no cattle infested with ticks are turned on them in future. Allow no tick infested cattle to come on the farm and urge the adoption of a "no fence" law in every county thus getting rid of wandering cattle. These straying cattle cost the farmers of the South hundreds of thousands of dollars every year.—Ed.

THE LARGE VERSUS THE SMALL DAIRY COW.

Editor Southern Planter:

No act of Congress has been of greater advantage to the farmer than the act establishing and aiding the State Experiment Stations; and no special work done by these stations has been of greater importance than that done in the interest of the dairy farmer. It is less costly to learn at another's expense than at one's own; and by giving heed to the disinterested, non-partisan work done by the stations, the dairy farmer may save himself much bitter disappointment, and not be misled by following the false teachings of certain dairy writers and breed partisans. As its most valuable work in this line, the Wisconsin Experiment Station has recently issued bulletin No. 102, entitled "Studies in Milk Production." The present Wisconsin Experiment Station herd was established in 1898, and the bulletin covers the work of this herd for a period of four and one-half years.

In order to make comparison of results on a basis of type, the herd was divided into three classes—the small dairy, the large dairy, and the dual-purpose type. The men making this division were Messrs. F. H. Scribner, breeder of Jerseys; Charles L. Hill, breeder of Guernseys; Geo. McKerrrow, breeder of Short-horns; and W. B. Richards, Assistant in Dairy Husbandry at the Station.

Pasture was figured at \$1.50 per month, and other feeds at average Wisconsin market prices; while the butter was figured at 20c. per pound, and the skim milk at 15c. per 100 pounds. The butter was computed on the basis of 85.7 per cent. of one pound of butter-fat in the milk equivalent to one pound of finished butter; usually known as adding one-sixth to the butter-fat, the standard now used by the Holstein-Friesian and Guernsey Associations in their official records made under the supervision of the Experiment Stations.

The conclusions reached, as a result of the most painstaking work through a period of almost five years, in which all the food given each animal was weighed, and each treated as though she alone were on test, confirm my teachings of 20 years past that the larger type of dairy cow is the more profitable for the dairy farmer. Space will not permit me to give as much as I would like; but, as conclusively in favor of the large dairy type, of which the Holstein-Friesian is the best exponent, I quote the following:

"Cows of the large dairy type preferable.—From the data presented it will be seen that, everything considered, cows in group B, representing the large dairy type, are clearly in the lead for economic production of milk and butter-fat. The results of over four years' work with cows of the extreme dairy type, represented in group A, not only failed to establish the claims for the superiority of cows of this type

over a much larger and apparently stronger dairy type, but clearly showed that they are not as large producers, nor as profitable dairy animals, as the latter.

That the extreme dairy type has been popular, at least in this state is evidenced among other reasons, by the fact that three of the cows selected for the University herd at our solicitation by prominent dairymen in our State were fair representatives of this type of cows, and are included in group A. Our investigations have been conducted under the most favorable conditions possible for this type of cows; the stable in which they have been kept is considered a model one, as regards cleanliness, light, ventilation and general comfort of the animals, and water is provided for them in the stalls so that they are not exposed to inclement weather at any time. They are given the best of care and attention at all times; being fed liberally; kept during the hot summer months in the cool, darkened barn, protected from sun and flies; and are fed various green feeds and grain in summer, as well as protected from cold in winter.

In view of the ever-increasing demands on the part of dairymen for cows that will have endurance and ability to withstand diseases, as well as great productive capacities, we do not hesitate to state that in our opinion it is not the part of wisdom for our dairymen to select the small refined cows with a spare habit of body in an extreme degree as the most desirable type of dairy cows.

The Farmers' or Dual-Purpose Type.—Neither is it the part of wisdom for the dairyman, as such, to select cows of a type similar to those in group C, representing the dual-purpose type, and to expect the greatest profit from them in the production of milk and butter-fat. For the dairy farmer, the large type of dairy cow will, we believe, everything considered, be found the most profitable. In view of the results obtained with the different groups, it is apparent that cows with the greatest capacity for consuming rough feed are generally the most economical producers. This may be accepted as a fundamental characteristic of all cows capable of large and economical production in the dairy.

The station's comparisons by breed are very striking, and, as usual, the Holstein-Friesian breed is found to excel. Indeed, it seems that with fair representatives this great breed will always win in any net profit comparison, where both the butter-fat and skim milk have values assigned. The average results of the breed comparison are as follows:

	Holstein, Guernsey.		Jersey, Shorthorn.	
	Lbs.	Lbs.	Lbs.	Lbs.
Annual yield of milk.....	9,987.3	6,307.7	5,700.2	7,121.4
Annual yield of fat.....	351.6	319.4	301.1	281.7
Annual value products.....	\$94.03	\$82.31	\$77.10	\$74.26
Annual cost of food.....	46 46	37 37	36 22	38 17
Annual net profit.....	48 47	44 94	41 88	36 09

A careful study of this table will show the dairy farmer that it is not the cow that gives the richest milk, but the cow which produces the largest amount of butter-fat that wins out. During all those years, and for all their milk taken in bulk, the average for the Holstein-Friesian milk was 3.52 per cent. fat, while the Jersey average was much higher; yet we see that the Holstein-Friesians averaged annually over 50 pounds more of butter-fat for each cow than did the Jerseys.

But this table does not tell the whole story; the Wisconsin Station had even better grounds for deciding in favor of the larger, hardier, more vigorous cows. If a farmer went into the dairy business for five years he would take account of stock at the beginning and at the end of the specified time; and if he found that the herd had increased or decreased in value, he would take such increase or decrease into consideration. The Wisconsin Station did not do this because it was making a study of milk production only; but it gives a resume of each cow, and we can follow it out for ourselves. The Jersey list reads like a column of obituary notices: Out of 12 cows, one died of congestion of the lungs, one of bronchitis, two were got rid of because of loss of part of the udder from garget, two because found tuberculous, two because such delicate feeders as to be unprofitable, and one because of lack of constitutional vigor and dainty appetite; only three left out of twelve, and they not the best.

The hardy, vigorous Holstein-Friesian cows furnish a surprising contrast to this list: One did so well that a California breeder purchased her last summer at a long price, and took her to California. The rest are there and still doing business at the old stand, though there is one that H.-F. breeders would no doubt, be glad to get if they could. This is Alma Marie Josephine, who at three years old made a record of 18 pounds, 5.8 ounces butter from 400.3 pounds milk, showing an average for the seven days of 3.77 per cent. fat in the milk. The net profit for the one week was estimated to be \$2.72.

The main deduction which the thinking dairy farmer must draw from the exhaustive work shown in this bulletin is that for the greatest net profit he needs cows of the large dairy type, such as the Holstein-Friesians; for, not only do they give a larger net profit, but by reason of their hardiness and great vitality, the large, vigorous Holstein-Friesians thrive on work which will break down and destroy the weakly constitutions of the small, delicately formed Jerseys.

MALCOLM H. GARDNER.

Darien, Wis., Dec. 21, 1903.

In justice to the dual-purpose cow it should be stated that the value of the calves produced by them is much higher than those of the pure dairy types, as they make the best of beef steers and thus add largely

to the income from the herd over a period of years.
--Ed.

MOLASSES FOR HOGS.

Editor Southern Planter:

I had a barrel of all sorts of molasses the drainage from measuring cane that I directed my clerks to turn upside down, after filling an order, into a big funnel that was placed into the bugle of this particular barrel. When I quit merchandising I brought this barrel of molasses to the farm. I found that my pigs were not relishing their bran mash and it occurred to me to put one and a half gallons of this molasses to each 50 gallons of bran mash. In 35 years of pig raising experience I never saw such a sudden and rapid improvement in pigs as resulted from feeding the mixture. I fill a 50 gallon barrel one-fourth full of bran and shorts. I then put in 1½ gallons of this molasses and fill the barrel from my beating apparatus with milk-warm water and feed at once, keeping the mixture thoroughly stirred while feeding. I add all the greasy slops and milk I can get to the mixture, and when this is very scarce I cook for each barrel of mixture a half bushel of unmarketable potatoes, the marbles as they are sometimes called.

THOS. S. WHITE.

Rockbridge Co., Va.

VIRGINIA VETERINARY MEDICAL ASSOCIATION.

The Virginia Veterinary Medical Association met in Richmond on the 14th of January. This was undoubtedly the most successful meeting in the history of the association. Much important business was transacted, officers elected, some very interesting cases reported, operations performed, and a paper read by Dr. J. G. Fernyhough, State Veterinarian, and Assistant Professor of Veterinary Science, in the Veterinary Department of the Virginia Polytechnic Institute at Blacksburg, Va.

MILK RECORDS FOR 1903

At the Melrose Castle Farm, Casanova, Va.

Editor Southern Planter:

The milk produced by the full blood Ayrshire herd at the above farm, advertised in another column of this journal, is weighed at each milking.

The records show an average production of 5,329 pounds of milk from 35 cows. Throwing out three heifers for first period of lactation, the average for 32 is 5,345 pounds. Twelve of the 35 produced over 6,000 pounds and the best cow produced 7,079 pounds.

EXOS. H. HESS,
Manager.

The Poultry Yard.

RAISING CHICKENS BY NATURAL MEANS.

Editor Southern Planter:

Arrange to have a number of hens hatch at the same time so that more chickens can be given to each hen and they are less trouble to care for proportionately. Since the hens are the best brooders, where an incubator is employed to hatch the chicks, they may be raised by hens. To do this set one hen at the same time the eggs are put into the machine and divide her eggs amongst a few other broody hens when the eggs are nearly ready to hatch. After a hen has been on the nest with one or two chicks under her she will undertake the task of raising a large family without any trouble, and the chicks from the incubator hatched eggs may be given these hens, say at the rate of 20 to 25 to each hen.

The time of hatching controls to a considerable extent the size of the fowl. Early hatching tends to produce larger fowls. It takes an average of three eggs to produce one live healthy chick. This is the conclusion which has been reached at some of the experiment stations. Of course this takes into account all losses and yet many people continue to be sorely disappointed if they buy a setting of eggs and one-third of them fails to hatch.

The last thing that the chick does before leaving the shell is to draw into its body the yolk of the egg from the white of which the body of the chick has been developed. Full and plump as it is when it comes from the shell, it does not require any food for the first twelve to thirty-six hours. In that time it has learnt to use its legs and is much more active than at first and will readily pick up food supplied to it. During the first two or three days the chicks require warmth more than food, and the hen should be disturbed as little as possible. The best food for the first few days is stale bread soaked in milk and squeezed nearly dry. This should be crumbled fine and placed where the chicks have free access to it, and where they cannot step on it. The first meal, recommended by Prof. Chas. E. Thorne, director of the Ohio Agricultural Experiment Station, is beaten egg with two tablespoonfuls of milk. After beating the mixture is set in a warm place until it coagulates or "sets" into a custard, and should be fed in this condition. Rolled oats (oat meal grits) make an excellent food for chicks. There is, perhaps, no better grain food for young chickens than oats prepared in this manner. This may be fed after the third day in

connection with the bread sopped in milk. The chicks should be fed regularly five times a day for the first month and no food allowed to sour. After the first ten days more uncooked food may be fed. A mixture of wheat bran, corn meal, and a little linseed meal mixed makes a valuable food. This should be scalded but not made soppy; boiling water makes it stick together better and partially cooks it. In this condition it is more easy to digest. The addition of a little bone meal supplies an abundance of bone making material and counteracts any tendency to diarrhoea. Dry grains, such as cracked wheat, cracked oats, millet seed and screenings from the various grains scattered through litter induce exercise and give a variety. These should be given three times a day and soft food should constitute the other two meals. Hard-boiled eggs may be fed from the beginning, but like milk, require more skill than the feeding of bread soaked in milk. The eggs should be mixed with bread crumbs, one-half of each and fed once a day, say every other day for the first week. Too much boiled egg is not good for the chicks.

One of the great difficulties in raising fowls is to carry young chickens through the first two weeks without bowel disorders. Improper food, injudicious feeding and cold each play an important part in producing these disorders. The best corrective is scalded milk substituted for the drinking water.

If the fowls are confined in coops a very little finely chopped meat should be given once a day,—a piece as large as a walnut will be sufficient for a dozen chicks. Dried blood or meat meal will serve the purpose as well. Coarse sand makes an excellent grit for very young chickens. As they get older some coarser material must be provided.

During the first eight weeks of their life chicks should have plenty of room to run, yet they should not be allowed to tramp around in the wet grass. With runs of medium extent they should receive three meals a day during the second and third months. Mash in the morning and grain in the middle of the day and at night.

When the mother shakes off the chickens they should be protected from the cold. It is a good plan to place the hen and chickens in the house where you wish to keep the chickens after the hen has left them. They will huddle together and so keep warm. Twenty-five is sufficient in each flock so as to prevent over-crowding. Do not furnish roosts for the

young chickens. Crooked breast bones are often caused by roosting too young. During the hot months shade must be provided. Let them out early, they will hunt and enjoy life during the morning hours. At 10 or 11 A. M. you will see them lounge in the shady places. Then a few hours before sunset they will scatter again, until fed the last meal, and then retire happy and contented with life. If one has an orchard it is an ideal place for shade and insects. A five or six foot wire fence should inclose the fowls.

GEO. H. C. WILLIAMS.

District of Columbia.

THE NEW YORK CO-OPERATIVE EGG PRODUCTION EXPERIMENTS.

In a comparison of the different breeds of fowls the White Leghorn pullets came out first, second and fifth in the eggs laid per 100 fowls per day, and a flock of mixed fowls, pullets and hens, came out third and fourth. In the food cost of one dozen eggs, the White Leghorn pullets came out first, second and third, and a mixed flock of pullets fourth. Plymouth Rock pullets came out sixth in eggs laid per 100 fowls per day, and twelfth in food cost of one dozen eggs. Black Minorca pullets came out thirteenth in eggs laid per 100 fowls per day, and eighteenth in food cost of one dozen eggs. In the experiment in 1902-1903 a flock of White Leghorns, consisting of 500 pullets and 18 cocks and cockerels, made a profit (excess of value of eggs over cost of food) of \$46.45 per 100 fowls. A mixed flock of Wyandottes, Leghorns and cross breed Wyandottes and Leghorns and Buff Leghorn pullets and hens mixed made a profit (excess of value of eggs over cost of food) of \$41.69 per 100 fowls. Another flock of White Leghorn pullets made a profit of \$40.58 per 100 fowls. In the winter of 1902-1903, while the price of foods remained about the same as in 1901-1902, the price of eggs from about the 1st of February on was remarkably low. This covers the period when the greater number of eggs were laid, consequently the profits are much less in 1902-1903 than in 1901-1902.

DUCKS AND WINTER LAYING.

Ducks, as a rule, do not lay well in winter, if we except the Indian Runner breed, and yet eggs at this time are very much wanted by those who hatch and rear early ducklings for market. The eggs of the Runner can be had without much difficulty, but this breed is of little value for the purpose referred to. A

breed which grows quickly and puts on plenty of flesh of fine quality is what is wanted. Good condition, without being overfat, is what is demanded in the stock birds, and, in addition, they must be provided with comfortable quarters, and supplied with good and stimulating food. Animal food must form a liberal share of their diet. Ducks can stand a lot of this, and during the winter they lay all the better for it. Cooked vegetables, such as cabbage and turnips, are also very necessary, and should always accompany a diet rich in nitrogenous elements. Mere fat-producing food is of little value, though a certain amount is necessary to supply the carbon demanded by the low temperature of winter. In this respect, corn meal is useful, but should be combined with one-third its bulk of bran.

A cross between Pekins and Aylesburys often produces ducks which have a tendency to lay earlier in the winter than the pure bred parents, and it often suits to cross these birds another year with pure Aylesbury drakes. When Indian Runner ducks are crossed with Aylesbury drakes plenty of early eggs are secured, and the young ducklings are fairly satisfactory growers, but if this cross is again mated with an Aylesbury male the results are generally very satisfactory. Eggs can usually be got at the time they are wanted, and the ducklings grow fast, and put on a lot of meat. If the top prices are usually secured by pure bred Aylesburys, the latter cross, at any rate, ranges high up, and, everything considered, is very satisfactory.—Ex.

Potato Fertilizer—Chemical Fertilizers.

Will you let come out in your February issue the different chemicals to make a good potato fertilizer, and where they can be bought, and proper proportions to mix the same, and how much to the acre. If possible, give names of parties selling chemicals, as we have applied to some companies and they refer us to the agent, and he wants to sell us a manufactured article, which we do not want. Also can you give us the wholesale price list on chemical fertilizers from the parties you recommend?

J. SINCLAIR SELDEN.

If you look at Work for the Month in the Garden Department you will find instructions as to Irish potato fertilizer. You can get chemicals for mixing fertilizers from Mortimer & Co., 13 William street, New York city. They will quote you prices delivered in this or other States. They are a reliable firm, and will sell you the goods as cheap as they can be bought anywhere and of guaranteed analysis. You will find a price list of chemicals in this issue.—Ed.

The Horse.

NOTES.

The Eastern Shore of Virginia breeders, the Floyd Brothers, whose establishment is near Bridgetown, in Northampton county, are branching out and infusing new blood into their trotting stud year after year. Their premier sire is Sidney Prince, 2:21½, son of Sidney, and his stud companions are Red Oliver, by Electrite, from the great brood mare Lady May, and a young horse by Baron Dillon from a producing dam. There is no more popular horse in Virginia than Sidney Prince, and his book for some seasons has filled to overflowing. At the recent Fasig-Tipton sale, New York, the Messrs. Floyd added eleven head of well bred brood mares to their collection, and the addition of these matrons is likely to produce results of a highly satisfactory nature. They are by successful sires and mated with the Floyd stallions should throw race winners. The mares in question are Ilario, bay, foaled 1898, by Allerton, 2:09½, dam Baroness Sprague, by Baron Wilkes, bred to Expedition, 2:15½; Nonamusa, a brown, foaled 1900, by Allerton, dam Kate E., dam of Birchwood, 2:15, by Mambrino Boy, bred to Expedition; Egeria, a black, foaled 1901, by Wilkes Boy, dam Equiria, by Expedition, bred to Allerton; Red Rock, a bay, foaled 1893, by Egotist, 2:22, dam Dixie Phallas, by Phallas, 2:13½, bred to Allerton; Baroletta, 2:17½, pacing, a bay, foaled 1896, by Grand Baron, 2:12½, dam Colleta, 2:19½, by Nut-breaker, 2:24½, bred to Grattan Boy, 2:08; Alselma, a bay, foaled 1899, by Altivo, 2:18½, dam Anselma, 2:29½, by Ansel, 2:20, bred to Axworthy, 2:15½; Czarina, a brown, foaled 1900, by Henry Jay, dam Sugar, dam of Peppina, 2:18½, by Lumps, 2:21; Bessie Gillig, foaled 1899, by Gillig, 2:23½, dam Cecil, dam of Ti Point Mary, 2:17½, by Waltham; Miss Thayer, a black, by Simmons, 2:28, dam Esprit, by Cuyler Clara McGregor, a chestnut, foaled 1886, by Robert McGregor, 2:17½, dam Clara Morris, by Mambrino Patchen, bred to Managing Director, and Clemence, a bay, foaled 1899, by Cresceus, 1:59½, dam Aureola, sister to Delegate, 2:27½, by Dictator.

The brood mares purchased by the Floyd Brothers and placed in their stud should make history for the Eastern Shore of Virginia, as most of them are bred in fashionable lines and carry the blood of the most successful sires of the present day. Nearly all of them trace to George Wilkes, Electioneer and Alexander's Abdallah, a trio holding the first rank among the sons of Hambletonian, 10. Some of these mares are yet young, and will be trained and raced before

being retired permanently to the stud, while others are already staid matrons and were purchased specially for breeding. Those by Allerton, Expedition, Wilkes Boy and Robert McGregor are the get of sires of proven merit, and likely to attract most attention, of course, but I confess more or less partiality for Clemence, the daughter of the stallion king, Cresceus, 1:59½, not wholly because she is by that mighty warrior, but on account of her carrying the blood of Dictator on the maternal side, through her dam, Aureola, the sister to Delegate. When mated with Sidney Prince, Clemence should throw a race horse, as the prospective foal will carry blood that has produced Lon Dillon, 1:58½, queen of trotters, and Cresceus, 1:59½, who reigns as king of them.



Kelly, 2:27, full brother to Expressive, 2:12½, is doing finely in the stable of W. J. Carter. Expressive was the greatest trotting race filly as a three year the world has ever seen. She has great size, and was recently sold at auction in New York for \$1,700 when thirteen years old. Kelly is a son of Electioneer, out of far-famed thoroughbred Esther, dam of four trotters. He has sired McChesney, 2:16½, and other speedy performers. This horse transmits his level head, speed and exquisite finish to his get, too, and breeders can make no mistake in sending their best mares to his court.



Among the trotters that are being wintered at Spring Garden Farm, the country home of Robert Tait, the Norfolk seed merchant, are Burlingame, 2:18½, the brown stallion, by Guy Wilkes, dam the famous brood mare Sable, by The Moor; Lissak, son of Burlingame and Helic, by Norval, and such brood mares as Helice, dam of Clarion, 2:15½; Miss Mack, dam of General Johnson, 2:12½; Sweetstakes, dam of Great Stakes, 2:20, and others of note. Burlingame was a trotter and a great show horse as well, and he is the premier sire at Spring Garden, but Lissak is a young horse, with good looks and speed, and some of the best mares at the farm will be mated with him this season.



Some of the best mares in the State were mated last season with W. H. Nelson's bay stallion, Great Stakes, 2:20, and the son of Billy Thornhill is likely to be well patronized during the coming one. Great Stakes is the sire of the crack roadster, Foxhall, 2:19½, and other fast ones. Some of the best bred of his get are fast enough to win and will take records when started. One of the most promising of his

daughters of the chestnut mare Princess Kenton, was sold for export to Europe last season. Her record was only 2:32, but she could trot in 2:15.



The meeting of the Virginia State Veterinary Association held in this city a few days since, was harmonious and productive of good results. Officers were elected and matters of importance discussed. Dr. Faville, of Norfolk, was chosen president; Dr. Thomas Fraser, of Richmond, vice-president, and Dr. Gilchrist, of Norfolk, secretary and treasurer. The Board of Censors consists of these officers and Drs. Drake, Bannister and Eppes. Dr. J. G. Ferneyhough, who occupies the position of State Veterinarian at the Virginia Polytechnic Institute, Blacksburg, read a most interesting and valuable report of his work, while other papers of interest to the profession were also read and discussed. On adjournment of the Association the State Board of Veterinary Examiners, consisting of Drs. Gilchrist, Drake, Bannister and Willis, met and proceeded with the examination of applicants to practice in the State.



Among the two year olds in the string of J. O. Keane, the Kentucky trainer, who invaded Russia in 1902 and won more races than any one else, is Certiorari, chestnut colt, by Eon dam Cara Belle, by imp. Charaxus, dam Ada Belle, by Eolus. Certiorari was bred in the Ellerslie stud, Charlottesville, Va., where his sire, the son of Eolus and War Song, rules as premier.



One of the highly prized brood mares in the Kingston stud of Baker & Gentry, Lexington, Ky., is the Ellerslie bred mare Charola, a chestnut daughter of imp. Charaxus and Eola, the sister to Eole, by Eolus, dam the famous War Song, by War Dance. The first foal of Charola, a filly, was sold at auction in New York last spring for \$1,800. She has just dropped her second foal, a handsome chestnut colt, by Jack Point.



The stable of trotters owned by L. G. Roper are being wintered at Lonsdale Stock Farm, Roper, N. C., and the horses are all doing nicely. By the record Harry Woodford, 2:17½, the brown gelding, by Clement R., dam Maud, by Harry Clay, is the fastest member of the stable and Mr. Roper considers his able to trot right around 2:10. Among others in this string are Lady Thelma, 2:20½, by Clement R.; Simol Stakes, 2:21½, by Great Stakes; Mabel R.,

by the same sire, and Tar-Heel, by Clement R., all of whom are out of the great brood mare Sue Norfolk. Sue Norfolk, the daughter of Norfolk and Lady Manchester, is in foal to Alto Bell, by Day Bell, son of the ex-stallion King Palo Alto, 2:08½. The nicest colt at Lonsdale is a year-by by Foxhall McGregor, dam Sue Norfolk. In addition to these Sue Norfolk is the dam of Foxhall, 2:19½, Harry Woolford, Lady Thelma and Sunel Stakes were raced last season and Mr. Roper may conclude to send them out again during the coming one, along with some younger horses owned at the farm.



H. M. Johnston, Bedford City, Va., has sold to George D. Wingfield, same place, the California bred stallion Albenson, 16249, a bay, by Alberton, 4023, dam Lady Nelson, by John Nelson, 187, second dam Oregon Nell, dam of Maid of Oaks, 2:23, by Missourin Copperbottom. Albenson was foaled 1889 and bred by W. S. Enos, of Independence.



William W. Bennett, whose stud of thoroughbreds is kept on his farm, near Buchanan, Botetourt county, Va., has recently added to his collection the chestnut mare Sea Drift, by Knight of Ellerslie, dam Sea Foam, by Lisbon. The former good race horse and now successful sire of hunter and jumpers, Bohemian, son of Ten Broeck, who heads the Bennett stud, is wintering nicely and promises to be well patronized during the coming season.



A meeting of the Staunton Horse Show Association, of Staunton, Va., was held there recently and plans laid for an exhibition this year. The Association has secured the services of Julian Morris, who successfully managed the Lynchburg Horse Show in 1903. The officers of the Staunton Horse Show Association are: Hon. Edward Echols, president; J. N. McFarland, vice-president; L. G. Straus, treasurer; Hugh C. Braxton, secretary, while the Board of Directors is made up of S. H. Ellerson, W. W. King, L. L. Bowman, Julius Witz, Raleigh Carrier, J. B. Guntner, William A. Grubert and S. C. Neff.

BROAD ROCK.



ERRATA.—In our January issue, in the last paragraph in the Horse Notes, a mistake occurred which we desire to correct. The gentleman referred to as "Mr. Samuel" should have been Mr. Samuel Hairston. He breeds pure bred cattle and hogs and fine horses.—Ed.

Miscellaneous.

AGRICULTURAL TEACHERS AND WRITERS.

DR. W. C. STUBBS.

In the article in our last issue on this subject it was our intention to have included a short sketch of Dr. W. C. Stubbs, but we failed to receive his portrait in



time to have a half tone cut made. We have since received same, and have now the pleasure of presenting a life-like likeness of Dr. Stubbs. Dr. Stubbs is one of the men of whom Virginia may be proud, although, unfortunately for Virginia, his life work in the advancement of agriculture has been done in another State. Dr. Stubbs is a native of Gloucester county, Va., where he still owns the old ancestral plantation on which his forbears were born and helped to build up the State. This plantation he not only owns but works, the same being managed by his nephew under direction. He is there setting a fine example of scientific farming and daily increasing the fertility of the place and building up a fine herd of pure bred cattle. Dr. Stubbs, after serving through the war resumed his studies at the University of Virginia and graduated there. In 1869 he accepted a professorship in East Alabama College, and in 1872 was made professor of chemistry in Alabama Agricultural and Mechanical College, and later State Chemist. In 1885 he was called to take charge of the Louisiana Sugar Experiment Station, established by the planters of that State. He was shortly after appointed professor of agriculture in Louisiana State University and Director of the State Experiment Station at Baton Rouge. Later he was made State Chemist of Louisiana, and also Director of the North Louisiana Experiment Station, at Calhoun. He still discharges the duties of these various positions and has done so so efficiently and with such manifest advantage to the agricultural interest of the State that the Legislature has constantly increased

the appropriations made for the different interests under his charge. The work which he has done in connection with the introduction and breeding of richer types of Sugar cane and the growth of these and the introduction and perfection of means for more completely extracting and refining the juice has resulted in the addition of millions of dollars of wealth to Louisiana. In other lines of agricultural advancement he has taken forward ground, and is now doing all he can to increase interest in live stock breeding and feeding, with a view to the utilization of the waste products of the rice, cotton and sugar fields. In this issue will be found a short article dealing with his latest experiment in this line in which he has demonstrated that Louisiana, with her rice bran and molasses and forage crops, can feed beef which will top the Chicago market. Dr. Stubbs has been a prolific writer on the Sugar cane and sugar production, and his works are recognized as authorities on the subject. He has also written largely on other agricultural topics and has frequently favored us with articles of great value to Virginia and other Southern farmers. Although so busy a man he never fails to respond to any request from us for an article likely to be of help and value to his old Virginia friends.

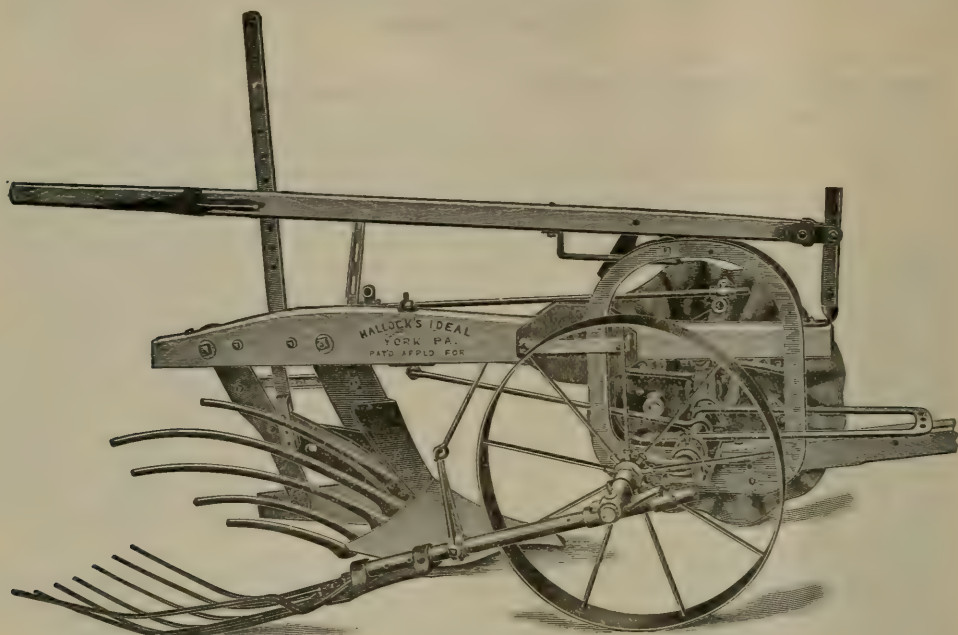
Bermuda Grass.

You will please advise me if you think Bermuda Grass would grow in Franklin county, Va. I am anxious to secure a stand of several acres if you think same will grow here. Advise best methods of sowing it. Will order the sod if you think best. Name land best suited for it. W. M. PARKER.

Henry Co., Va.

Yes, we believe it will succeed. Plant sod and not seed. It does best on good loamy land. Plow and work the land fine, then open shallow furrows about a foot apart drop in at intervals of a foot a few of the roots and cover with the plow and roll. The roots are much more reliable than the seed.—Ed.

If you have some pure bred birds, enter them for competition. The score card of the judge will give you an idea of their value.



AN IRISH POTATO DIGGER.

The scarcity of labor now common throughout the trucking sections of the country and which is being seriously felt in this and adjoining States, has led us to make some enquiry and investigation into the merits of an Irish potato digger which has recently been put on the market by D. Y. Hallock & Sons, of York, Pa., the introducers of that well-known and appreciated implement, the weeder. In the trucking sections of this and adjoining States millions of bushels of early Irish potatoes are grown every year. In the past the digging and gathering of this crop has been done chiefly by negroes, but the demand for labor has taken away to the mines, railroads and factories thousands of these men. Something in the shape of machinery is needed to take their place, and from our investigation into the merits of Messrs. Hallock's digger, we believe they have struck the needed want. Diggers in the past have not given full satisfaction. They either failed to dig cleanly or bruised and buried the potatoes after they were lifted. The devices adopted by Messrs. Hallock in their new machine seem to us likely to meet all these difficulties, and we are assured by those who tested the machine last fall that it did excellent work. We feel that growers may with confidence give this ma-

chine a trial, and we shall be glad to learn that they are doing so. Machinery is bound eventually to supplant human labor in this work, and those who first get the right machine are sure to be rewarded in the quick and economical handling of the crops.

NORTH GARDEN (VA.) FARMERS' CLUB.

Editor Southern Planter:

The North Garden Farmers' Club held its 14th annual meeting at the home of Mr. S. B. Woods, on the 19th of December. The inspection committee, consisting of Messrs. Harry Martin, W. H. Sutherland, G. W. White, reported Mr. Woods' large herd of pure bred Red Polled cattle in fine condition. He has also ten fine pure bred Poland China brood sows and 108 fine Bronze turkeys, for which Mr. Woods expects \$10 each. His large orchards are in good condition. Since the last meeting he has erected a large and handsome barn.

After the inspection the club were invited to a most excellent dinner, among the viands being a splendid wild turkey, roast bear, oysters, etc. After doing ample justice to these good things the Club adjourned to the parlor, where small tables were groaning under the weight of cakes and cream. After partaking

of all these creature comforts the Club was ready for business, and proceeded to the election of officers for the ensuing year. Mr. Harry Martin was elected President; Vice-President, W. H. Sutherland; Secretary, L. B. Johnson; Corresponding Secretary, J. N. Faris.

The drawing of the months in which each member will entertain the Club during the coming year then took place. There being no special subject for discussion, the talk took a wide range, from the Panama Canal to the raising of chickens. The subject for discussion at the next meeting was agreed upon—viz.: What new crops can we undertake to raise with fair prospects of success? S. B. Woods and S. M. Page to open the discussion.

The Club adjourned, to hold its next meeting at the home of Mr. W. L. Carpenter.

J. N. FARIS, *Corresponding Secretary.*

COUNTRY LIFE VS. CITY LIFE.

Editor Southern Planter:

I have been an interested reader of your practical and helpful journal for some five months, and, with your permission, would like to rise and ask a question. I have been a travelling man, am living in a city, and come in contact with all trades and professions of importance. Among every class I find the same feeling of discontent and the idea that the man in the *other* class has the best job, and the easiest living. Almost universally they end their plaint with the statement, "The farmer is the most independent and has the best living of any working man." My query then, is, can a frugal, industrious man, who owns his own home in the city, and is working on a fairly good salary, improve his condition and get ahead faster than could the same man with the same capital invested in a good farm, as well located with reference to markets as the city man is to employment, and allowing average success in each location?

I have a home in mind, which will illustrate the way in which the ordinary city man lives, and how his money goes. He owns a house of eight rooms, with all improvements, on a lot 35x100 feet, on a clean street and good neighborhood, within three minutes' walk of car line, stores, school, churches, etc. His property is worth about \$3,000. He works nine hours a day on a salary of \$50 per month. The family consists of three adults, and there is no work hired in the house, his wife doing the washing and ironing. The expenses of maintaining this home are about as follows:

Taxes per year	\$ 30 00
Food per year	180 00

Fuel per year	35 00
Water rents per year	6 00
Gas, fuel, light per year	25 00
Clothes per year	100 00
Repairs per year	20 00
Car fare per year	40 00
Lunches, 25c. per day	74 00
	<hr/>
	\$510 00
Year's salary	\$600 00
Total expenses	510 00

Balance

.....\$90 00
These figures, I believe, are as low as a family of three can live in this city respectably. This leaves, as you see, only \$90 for incidentals and for a rainy day. You can imagine how much is saved!

The United States Commissioner of Labor reports that the estimated cost of living for a family in this city is \$450 per year, and the average salary received as \$40 per month, many in debt and getting more involved each year.

Now, Mr. Editor, I can see where a large part of the above \$510 could be cut off in the country, with one's own cow, poultry, fruit and vegetables, so that perhaps one-half could be saved and placed on the credit side of the farm. But how about the crops and the income obtainable from a \$3,000 farm in old Virginia? Suppose we find a farm well located as to markets, of say a 100 acres, with fair buildings, water, etc., such as we see advertised in your State, and plan it to have, say—

- 25 acres in timber for fuel.
- 2 acres in yard and buildings.
- 3 acres in orchard and poultry yards.
- 10 acres in hog pasture.
- 20 acres in corn.
- 5 acres in wheat.
- 5 acres in oats.
- 30 acres in pasture, together with timber.

100

Suppose he kept 500 or 1,000 laying hens, hatching by incubator, and turning off as many early broilers as possible. Also 10 or 12 brood sows to run on the pasture, keeping them supplied with green feed by rape and other forage crops following the corn, etc. With a silo and a little surplus capital he might buy a few head of thin cattle, keeping them 60 or 90 days, and so get more manure and market his corn and roughage at home. If such a course was pursued, what could he reasonably expect to realize above his living? I would feel very glad if you should consider this query of enough general interest to devote a little space in the *PLANTER* to a discussion of the subject, and give us your opinion of the "better life" and facts to show what can be done.

Anything that will help to put intelligently conducted farming on a *business basis* with other professions, and stop the rush of young men to the already overcrowded cities, seems to me to be of prime importance. Authorities tell us that 3 per cent. of the men who start in business make a success. How is it in farming? The latter business surely makes less nervous wrecks, and I believe affords the most satisfaction in life to one adapted to it.

Cleveland, Ohio.

H. C. KING.

The foregoing question is one which has been repeatedly addressed to us, and one which we have on more than one occasion essayed to answer. The great difficulty which always confronts us in dealing with the subject is one of the man and not of the farm. Given the right man, one who knows something of country life and has a genuine love for the country and for working in the land and amongst animals, and there can be no doubt but that such a man can succeed as a farmer either in this State or in any other good farming State, and that he can not only provide better for the daily wants of his family, but can save more money than he can as a clerk or employee in the city on such a salary as the average man can command. And yet with this certain assurance we always hesitate to advise a man to break up a city home and throw up a situation to become a farmer. This hesitancy is occasioned by fear lest the man and the new occupation shall not be found in harmony, especially under what are almost certain to be the rough experiences of the first two or three years, and that he will become discouraged and lose what he has saved and invested in the new place. With \$3,000 to commence the life of a farmer in this State any man at all capable of running a farm and with health, strength and willingness to work and learn, ought to succeed in five years' time in securing a beautiful home and an abundance of everything needed to make life worth living, and after that save money each year. We would say first do not buy too large a place, 100 acres is enough, even less would be better than more. Do not invest in the farm more than half your capital. You will need money to meet running expenses and to provide household needs for at least two years, and probably something in addition to what the farm makes for another year or two beyond that time. In this State for \$1,500 there are hundreds of places for sale of from 75 to 150 acres, with fairly comfortable houses and buildings on them, which, with good, energetic and scientific management, will, in three years, make most desirable and profitable homes. The mistake nearly all make who come here from

the North and West is that they buy too much land. They are surprised at the low price of our lands as compared with the price of land North and West, and overburden themselves at the start, thus locking up their capital when it is essentially necessary that they should have means available to improve lands which, though naturally good, have been wasted by years of unscientific farming. On such a place as we have suggested, located within a reasonable distance of a city or town, a system of diversified farming, making dairying, hog raising and egg and poultry production leading features and raising on the farm all the rough feed needed and as much of the grain food as can be done, success should be assured. We have in mind a gentleman in this State who gave up a situation as a drummer for a commercial house about ten years ago and went on to a farm owned by his wife in Southside Virginia. This farm had been rented for years, and was so badly run that the last tenant refused to live longer on it, even rent free, as he could not scrape a living out of it. Fortunately the gentleman in question had great love for farm life, and had been trained at the Agricultural and Mechanical College of the State, and had, therefore, some knowledge of the work before him. Beyond the farm he had only a few hundred dollars of capital. This he invested in a team and a few cows and hogs, and set about the work of improving 50 acres of his farm. He has worked steadily on the place from that time to this, and now owns one of the prettiest places in the whole section, producing on 100 acres of the improved land some of the heaviest crops ever grown in the State, which are fed to a fine herd of cattle and to hogs and poultry, whose products are shipped to this city and sell at top market prices, producing a fine income and constantly enhancing the value of the farm and stock. What this gentleman has done you can do, if, like him, you are adapted to the life.

Remember, the best-looking birds are not always the best performers, and before completing the bargain learn something of the characteristics of these birds: the number of eggs per year the flock laid (or, better still, the individual records of some of the hens); if they lay through the winter; the kind of house they are in (if heated with stove, or other means, during cold days or nights, don't have them at any price); and other questions that may suggest themselves. Have a clear idea what you want, and if you are asked a price equal to one dollar per pound, "don't pinch down for a chip."

THE

Southern Planter

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J. F. JACKSON,

Editor and General Manager.

B. MORGAN SHEPHERD,

BUSINESS MANAGER.

TERMS FOR ADVERTISING.

Rate card furnished on application.

TERMS FOR SUBSCRIPTION.

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ALWAYS GIVE THE NAME OF THE Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

THE DATE ON YOUR LABEL shows to what time your subscription is paid.

Address THE SOUTHERN PLANTER, RICHMOND, VA.

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PUBLISHER'S NOTES.

TO ADVERTISERS.

All advertisements and matter pertaining to advertising *must* reach us by the 25th of each month. Please bear this in mind.

Our Holiday Number.

It is with a feeling close to profound gratitude that we acknowledge the numerous letters and expressions of commendation and congratulation we have received on our January issue. From all quarters of the country have come words of praise of our effort. We have been made to feel that we have really done something worth doing. We are sure that we have gathered enough inspiration from these letters to last us through this year, and to urge us to still greater effort in the future. We append a couple of letters, which are fair samples of those received, and as they come from such competent sources, you need not blame us if you find us suffering with an attack of "swelled head" some time when you drop in on us:

Raccoon Ford, Va., Jan. 12, 1904.

I have been reading The Southern Planter for many years, say, from its foundation, in 1840, sixty-four years, and I am sure I have derived much benefit from it, and I hope it will survive and prosper for the benefit of generations to come.

I am now almost eighty-eight years old, and am still giving my active attention to my farm operations. This is a blessing vouchsafed to very few, and I trust I am not unmindful, but often cherish a deep sense of gratitude for my vigorous health and activity in my old age.

With best wishes, I am, very truly,
Your friend, P. P. NALLE.

Adrian, Mich., Jan. 11, 1903.

The Southern Planter,
Richmond, Virginia.

Gentlemen:

The writer has gone through every page of your current issue, and believes, without exception, it is the most interesting number of any agricultural paper that ever came to his office.

We congratulate you upon your grand success. Very respectfully,
Dr. J. H. REYNOLDS, Advertising Man
Page Woven Wire Fence Co.

Wood's Seeds.

Twenty-five years practical experience, and the fact that we do the largest business in Seeds in the Southern States, enables us to supply every requirement in

GARDEN AND FARM SEEDS

to the very best advantage, both as regards quality and price.

Truckers and Farmers

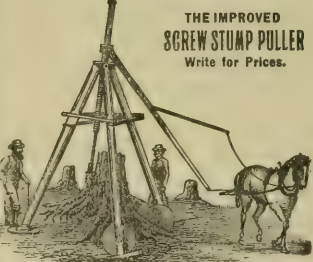
requiring large quantities of Seeds are requested to write for special prices. If you have not received a copy of WOOD'S SEED BOOK for 1904, write for it. There is not another publication anywhere that approaches it in the useful and practical information that it gives to Southern farmers and gardeners.

Wood's Seed Book will be mailed free on request. Write to-day: do not delay.

T. W. Wood & Sons, Seedsmen,
RICHMOND, - VIRGINIA.


THE IMPROVED
SCREW STUMP PULLER

Write for Prices.



Chamberlin Mfg. Co., Olean, N. Y., U. S. A.

HERCULES STUMP PULLER




Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centerville, Iowa.

Stump Pullers

grubbing - machines, DERRICKS to handle cane, cotton and tobacco. Derricks to load manure. Derricks for all purposes.



Dept. L. NATIONAL HOIST & MACHINE CO., Chicago, Ill.

DEAFNESS CANNOT BE CURED

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound, or imperfect hearing, and when it is entirely closed, Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever. Nine cases out of ten are caused by Catarrh, which is nothing but an inflamed condition of the mucous services.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars, free.

F. J. CHENEY & Co., Toledo, O.
Sold by Druggists, 75c.
Hall's Family Pills are the best.

WITH THE ADVERTISERS.

R. B. Williamson is advertising his "Invincible Sprayer" in this issue. He has a very interesting illustrated circular he would like to send to interested parties.

P. S. Lewis & Son are among the new advertisers in this issue. Their splendid herd of Short-horns, in which will be found the splendid bulls, Lord of Spring Creek, Cedric, Imp. Laverder Lad, Imp. Sir Wilfred Laurier, is well worth investigating before purchasing elsewhere.

This firm is going after the trade in this section, and will treat prospective buyers right, both as to price and quality of stock.

The Hard Steel Fence Co. has a card in another column. Many of our readers are familiar with their goods.

Hon. A. W. Harman, Jr., comes out with a Berkshire ad. in this issue. He offers some choice stock.

Latham & Co. are offering Spraying outfits. Look up their ad. and send for descriptive circular.

The Merchants' National Bank publishes a comparative statement covering 15 years of its business, which makes very interesting reading for any one interested in a safe and reliable banking institution.

R. J. Hancock & Son are offering for sale their noted horse, Aulus. Look up the ad. and send for his pedigree and price.

J. W. Randall would like to dig you an Artesian well. Look up his ad. elsewhere.

James Leffel & Co. have an interesting card on another page.

The Cash Supply and Mfg. Co. are advertising their "Michigander" incubator.

W. M. Ostrander, the Philadelphia

SALZER'S SEED NOVELTIES

SALZER'S NATIONAL OATS.
Yes, farmers of America lend me your ears while I chant the merits of this new Oat Novelty.
Editors, Agricultural Writers, Institute, Orators, all talk and write about this new Oat. It yielded in Wis 136 bu., in Ohio 137 bu., in Mich. 231 bu., in Mo. 255 bu. and in N. D. 310 bu. per acre, during 1903, and in 1904 you can grow just as easily 250 bu. per acre of Salzer's National Oats, as we can. Your land is just as good, just as rich and you are just as good a farmer as we are. We hope you will try this Oat in 1904, and then sell same for seed to your neighbors at a fancy price, next fall.

Macaroni Wheat.
It does well on arid, dry lands as also on rich farm lands, yielding from 30 to 50 bu. per acre.

Speltz and Hanna Barley.
Greatest cereal food on earth. Yields 4 tons elegant straw hay and 80 bu. of grain, as rich as corn, oats and wheat ground together! Does well everywhere. Hanna Barley grows on dry, arid lands, yielding 50 bu. per acre.

Salzer's Home Builder Corn.
Positively the biggest eared early corn on earth yielding in Ind. 137 bu., Ohio 168 bu., Tenn. 138 bu., Mich. 239 bu. and S. D. 276 bu. per acre. It is really a marvelous corn. Sinks its roots deeply after moisture and nourishment and grows like a weed.

Bromus Inermis and Alfalfa Clover.
Bromus Inermis is the most prolific grass for permanent pastures on earth. Yields 7 tons hay per acre. Good on sand, lime, clay, gravel—yes, on all kinds of soils.
Alfalfa Clover produces more hay and better hay than any Clover known. It is good for 7 tons per acre.

Potatoes 736 bushels per Acre.
The Editor of the Rural New Yorker says, "Salzer's Earliest Potato is the earliest out of 53 early sorts tried, and yields 464 bu. per acre, while Salzer's Early Wisconsin yielded for them 736 bu. per acre. Salzer's Potatoes for yield challenge the world."

FOR 10c IN STAMPS
and the name of this paper, we will send you a lot of farm seed samples, including some of above, together with our mammoth 146 page illustrated catalog. Send to-day.

JOHN A. SALZER SEED CO. LACROSSE WIS.

HALLOCK Combined Weeder and Seeder

The farmer who knows the value of light surface stirring and weeding of growing crops recognizes in this the prize implement. It is the flat tooth cultivator. You know what that means—its special adaptability, its service, its results. Increases crop 25% to 40%. There is but one flat tooth—the only satisfactory tooth—the Hallock patent. We have the right to manufacture it.

The Seeder Attachment

means getting a good stand of clover, timothy and other grasses. It sows them all, and its position for seed can be adjusted to sow accurately from 2 1/2 to 15 quarts per acre. Especially valuable in the winter, fields, as the surface cultivation benefits the wheat and at the same time the grass seed is sown and lightly covered. The seeder can be readily attached to or detached from the weeder frame. Either is sold separately when desired. Catalogue free. Don't fail to write for free book of field scenes, showing hallockens from photographs of the weeder in actual use.

Keystone Farm Machine Co., 1554 North Beaver Street, York, Pa.

"NEW UNIVERSAL" LINE OF GARDEN TOOLS

6 STYLES SEEDERS

Opens furrows of Models in plain or Accuracy. sight, covers, marks.



Double or Single Wheel Hoe.

Cultivator, Plow, Rake. Churns quickly male. Cultivate between or astride the rows. Any depth, any width.



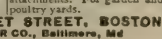
6 Tools in 1.

Combined seeder, marker, hoe, rake, plow, cultivator. Single or double wheel. Easy adjustment easily made. For planting and all kinds of cultivation.



Wheel Plows

with cultivator, rake and hoe attachments. For gardens and poultry yards.



Details on full line tools in 1904 free catalogue, Write for it.

AMES PLOW COMPANY, 56 MARKET STREET, BOSTON, MASS.

For Sale by CRIFFITH & TURNER CO., Baltimore, Md

real estate man, has a prominent ad. on another page.

The Rocker Churn Mfg. Co. is a new advertiser in this issue. They offer a churn of considerable merit.

The seed firm of Johnson & Stokes has a card on another page.

The J. B. Williams Co. are advertising their celebrated shaving soap.

The Truss & Cable Fence Co. resume their advertising with us again this season.

Look up the ad. of Dan Patch. The International Stock Food Co., his owner, have something interesting to say about him.

The Cozy Nook Poultry Farm is another new advertiser this season. They have some choice stock at right prices.

The Bullfield Farms are offering their Poland Chinas. Look up the ad. L. W. Walsh has some high-scoring Plymouth Rocks for sale.

A. P. White, Jr., owner of the Accomac herd of Berkshires, offers a choice lot of stock in his ad. in another column.

Miniborya Farm has some splendid Berkshires for sale.

Morewood Poultry Farm is advertising its prize-winning stock.

The Chicago House Wrecking Co. has four ads. in this issue, and we invite the attention of our readers to all of them.

Buff Rocks are offered by H. L. Trolinger, another new advertiser, in this issue.

Some splendid young mules can be had of Louis de Lacroix. Refer to his ad.

Rose Dale Stock Farm has a choice offering of Aberdeen-Angus cattle.

The famous Mapes Manures are advertised on another page.

Single Comb White Leghorns are a specialty of C. G. M. Fink, as will be seen by his ad. in another column.

Some choice Essex Hogs can be had of L. G. Jones.

The Ohio Carriage Mfg. Co. is going right after the carriage and buggy trade of this section, as will be evidenced by their large ads. to be found elsewhere.

Hollybrook Farm offers some choice Berkshires, and also eggs from the prominent strains of pure-bred poultry.

Some choice Angora bucks can be had of M. S. Valentine. He sends us a splendid sample of mohair, taken from one of these bucks in last November. It was then about 6 inches long.

J. T. Janney has three ads. in this issue, to which we ask your attention.

The Bona Vista Nurseries have a large ad. on another page. They are offering some choice stock, which will be found in good, healthy condition.

"Bruddahs en sistahs," said old Parson Sparks, "ef de church bell attractd people lak the dinneh bell, de pewds would be filled in two minutes after de fus' ringin'."

FOUNDED

1802.

GOLD MEDALS:

Paris, 1900. Pan-American, 1901.

Thorburn's Seeds

for over a hundred years have been universally recognized as the standard of excellence. They received the GOLD MEDAL (the highest award) both at the Paris Exposition of 1900 and at the Pan-American, 1901.

Our Catalogue

—the 103d successive annual edition—contains a more complete assortment and fuller cultural directions than any other seed annual published. It is beautifully illustrated, not with highly colored exaggerations, but with the finest half-tones from life photographs. It contains 144 large size pages, and is in every respect and without exception the most complete, most reliable, and most beautiful of American Garden Annuals. We will mail it FREE.

Market Gardeners

are invited to send for our special price list of high-class vegetable seeds for truckers and large market growers. It contains all sorts of approved merit.

J. M. THORBURN & CO.,

36 Cortlandt St., NEW YORK.

..ELMWOOD NURSERIES..

—WE ARE GROWERS AND OFFER A FINE ASSORTMENT OF—

Apples, Peaches, Pears, Cherries, Plums, Apricots, Nectarines, Grapevines in large assortments, Gooseberries, Curras, Strawberries, Horse-Radish, Asparagus, Dewberr and an extra fine lot Raspberries. Splendid assortment Ornamental and S de Trees, Ornamental Shrubs and Hedge Plants.

EGGS from B. P. ROCK and BROWN LEGHORN FOWLS at \$1.00 per 12. Also a few pullets and cockerels of these breeds at \$1.00 each for immediate delivery. Write for Catalogue to

J. B. WATKINS & BRO., Hallsboro, V

The "LANSING" PERFECT TUBULAR SILO

is the Best Silo Made.

It has continuous Hoops and continuous Door-way. Have no other.



Insist on having the Lansing, It Will Save Your Entire Crop.

A. M. D. HOLLOWAY,
Builders Exchange, Phila., Pa., U. S. A.
Write for Catalogue and Prices.

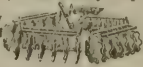
Clark's Tools for Large Hay Crops



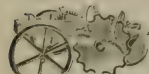
Clark's Rev. Bush Plow and Harrow cuts a track 5 ft. wide, 1 ft. deep. Connects the subsoil water. It is an excellent machine for covering in sugar cane. Strength guaranteed.

Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.

Clark's Double Action Cutaway Harrow moves 15,000 tons of earth in a day.
Send for Circulars.



Clark's Rev. Sulky Disc Plow



Made single or double. One or two furrows five to ten inches deep; 14 inches wide. For two or four horses. Light draft. No side draft. No similar

plow made. When Clark's grass tools are used as directed in his grass circular, we, the O. S. H. Co., guarantee them to kill wild mustard, charlock, hard hack, sunflower, milk weed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seedling to grass.

THE CUTAWAY HARROW CO.,
Higgenum, Ct., U. S. A.



All Grinding

Ear corn, with or without husks, and all grains ground fine or coarse as wanted with the

KELLY
DUPLIX
Grinding Mills

They never choke. Double the power, any kind. Strong and reliable. Write for the
THE O. S. KELLY CO., Springfield, Ohio.

A NEW FERTILIZER.

NITRATE OF POTASH.

A fertilizer chemical about which little is known by the average farmer, but to-day the cheapest source of potash and nitrogen, is Nitrate of Potash. It is practically the only extensive source of potash not controlled by the Potash Trust.

Nitrate of Potash is imported from India. The total exports from that country to all points are about 20,000 tons, of which about 6,000 tons come to the United States, 6,000 to England, 4,000 tons to China and Japan, 2,500 tons to the Continent, and 1,500 tons to Mauritius. Of the 6,000 tons brought to this country, about 2,500 tons are used by the packers, 2,000 tons by powder manufacturers, and 1,500 tons by fertilizer manufacturers. It is only during the last two years that fertilizer manufacturers have used the material, but the consumption in this direction is increasing. All Nitrate of Potash is sold under a guarantee of "under 6 per cent. refraction"; in other words, 94 per cent. Nitrate of Potash. Ninety-four per cent. Nitrate of Potash contains about 45 per cent. actual potash and 16 per cent. ammonia. In other words, 2,000 pounds of 94 per cent. Nitrate of Potash, analyzing 45 per cent. actual potash and 16 per cent. ammonia, contains as much actual potash as 1,850 pounds of 90 per cent. sulphate of potash, and as much ammonia as about 1,675 pounds of 96 per cent. nitrate of Soda—over 3,500 pounds of the two combined.

This material is worth to-day at New York for February-March delivery in lots of one ton and over \$70 per ton, f. o. b. cars. In car-load lots, ex vessel, \$67.50 per ton. It is in mixtures where potash in the form of sulphate is usually used as in tobacco fertilizers that this material shows the greatest economy. Tobacco stems, when distilled, produce potash in the form of Nitrate of Potash, which would certainly show that this material is an ideal source of Potash and Nitrogen for this crop.

With nitrate of soda, worth \$42.50 per ton, and sulphate of potash, \$43.50 per ton, in car-load lots at seaboard, Nitrate of Potash, at \$67.50, compares as follows:

1,850 lbs. of 90 per cent. sulphate of potash at \$43.50 per ton \$40.23
1,675 lbs. of 96 per cent. nitrate of soda at \$42.50 per ton 35.59

3,225 lbs. \$75.82
2,000 lbs. of 94 per cent. nitrate of potash, their equivalent. 67.50

1,525 lbs saved in freight and in cost per ton \$8.32

Nitrate of Potash is a white crystalline material, easily soluble in water, and, of course, its potash and nitrogen contents are at once avail-



No Money In Advance.

We will send any responsible farmer a

DITTO'S Triple Geared, Ball Bearing, FEED GRINDER

to test on his own farm. Grinds ear corn and all small grain. If it is not the easiest running, with largest capacity, don't keep it. It is strong and powerful—a time saver and a money maker. Send for circulars and full particulars.

G. M. DITTO, Box 48 Joliet, Ills.



You Try, It.

It costs nothing. Return at our expense if this mill fails to grind shelled corn, ear corn, all grains or mixed feed stuffs, easier, faster and better than any other.

New Holland Mills

are the practical, every day mills for every day wants. No other good mill at so low a price. Made in 3 sizes. Adapted to any kind of power. Don't fail to get our free catalogue before buying.

NEW HOLLAND MACHINE CO.,
Box 183, New Holland, Pa.

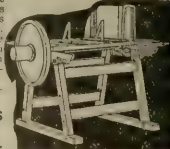
Leave Off Chopping,

wasting your time and strength. It is easy work—turning the wood pile into money or keeping up your own fire with

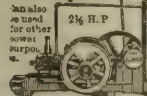
Freeman's Wood Saws.

Easy, perfect working machines of varied patterns and right prices. We also make the famous Freeman Windmills, Corn Shellers, Feed Cutters, etc. Ask for our catalogue 110

S. FREEMAN & SONS
MFG. CO.,
Racine, Wisconsin.



The "Weber Junior" Pumper



It is all complete, ready to attach to pump. Squeals 80 men in 10 minutes. Uses but little gasoline. Is shipped completely erected, all connections made. Easy to start, any one can operate it. Every one guaranteed. Other sizes up to 60 H. P. Send for catalogue. Weber Gas & Oil Co., Engine Co., Box 128 Kansas City, Mo.

Make Your Own Fertilizer

at Small Cost with

Wilson's Phosphate Mills.



From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultryman; Farm Feed Mills, Graham Flour Hand Mills, and Shell Mills. Send for catalogue. WILSON BROS., Sole Mfrs., Easton, Pa.

WE PAY \$33 A WEEK and expenses to men with rigs to introduce Foultry Compound. International Mfg. Co., Parsons, Kan.

THE BEST SPRAY PUMP ON EARTH



We know its merits from practical experience. Having used almost all known pumps in our own orchards, consequently we are able to judge of its superiority over all others. It is the most durable pump made. The easiest working pump, no stuffing boxes to look after. The handle is adjustable to suit the height of the operator. The agitator is a simple, direct motion, and keeps the solution thoroughly mixed. A pressure of 150 to 200 pounds can be easily obtained. Hand and Geared Vineyard Sprayers a specialty. Patented and manufactured by LATHAM & CO.,

Sandusky, O. Send for Catalogue.

Century Sprayer.

Best barrel sprayer made. Capacity and adaptability to suit all requirements.



These are features: its valves are bronze balls. Cylinder and plunger are brass. Indestructible bronze cranks. Large air chamber. Agitator that rotates. Its low

PRICE PLEASES

We make twenty styles of sprayers. Every need specially met with Hand, Bucket, Knapsack, Power or Sprayers. Spraying catalog free. Booklet on insects and plants and fruit diseases 10c.

THE DENING CO., Salem, O.
Henson & Hubbell, Western Agents
Chicago.

Get the Best

A Good Spray Pump earns big profits and lasts for years.



THE ECLIPSE

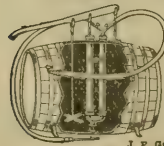
is a good pump. As practical fruit growers we were using the common sprayers in our own orchards—found their defects and then invented The Eclipse. Its success practically forced us into manufacturing on a large scale. You take no chances. We have done all the experimenting.

Large fully illustrated Catalogue and Treatise on Spraying—FREE.

MORRILL & MORLEY, Benton Harbor, Mich.

SPRAY
FORCE PUMP
HAS NO EQUAL
PRICE REASONABLE
CATALOGUE FREE
AGENTS WANTED
THE HOIL MFG. CO.
333 MAIN ST.
BUFFALO, N. Y.

FIRE



Defender Sprayer

All brass, easiest working, most powerful, automatic mixer, expansion valves, double strainer. Catalogue of Pumps and Treatise on Spraying free. AGENTS WANTED.
J. P. Gaylord, Box 82 Catskill, N. Y.

able, as is the case with nitrate of soda and sulphate of potash.

In certain provinces of India, during the dry season, this material comes to the surface and crystallizes. This crude product is scraped up and taken to Calcutta, where it is refined to 94 per cent. Nitrate of Potash.

EDMUND MORTIMER & Co.
New York.

JUDICIOUS SPREADING OF MANURE.

Probably no branch of farm work is of as much importance to the progressive farmer of to-day as the distribution of manure in such a way as to derive the most benefit, consequently his attention has turned to the more adequate way—that of spreading by machinery.

Several of the manufacturers of farm implements have put Manure Spreaders on the market in the last few years, and among these, reaching towards the height of perfection, is the Great Western Endless Apron Spreader. There are many strong points in favor of this machine, any one of which might serve to put it in a class by itself. Principal of these would seem to be the Endless Apron, which admits of reloading without the trouble of stopping to crank it back and of hauling about double the amount of manure that can be handled by a half apron machine.

The combined hood and end-gate serves the dual purpose of keeping the manure from beater while loading, and acts as a hood or shield while in motion, and is changed from gate to hood by means of the lever, which throws the machine in operation, without leaving seat. The beater will not carry over hard chunks or bunches of manure until they are thoroughly torn to pieces or pulverized. In fact, every detail for spreading has reached a surprising degree of completeness in this machine. It also spreads straw, chaff, sawdust, etc., for mulching strawberry plantations, etc.

We might say a great deal more for the Spreader, but feel you will get more good from the large illustrated catalogue which the Smith Manure Spreader Company will gladly mail you if you ask for it. See their advertisement in another column.

Hastings, Fla., Nov. 13, 1903.
Griffith & Turner Co.,
Baltimore, Md.

Gentlemen:

It is a pleasure to say that all my dealings with you have been more than satisfactory, and so far as I know, all of your stuff that has come in here has given satisfaction in price and quality.

Yours,

C. G. WHITE.

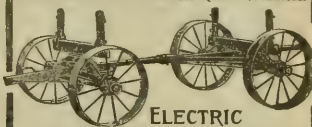
A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Wise Man's Wagon.

The man who has had experience in running a wagon knows that it is the wheels that determine the life of the wagon itself. Our

ELECTRIC STEEL WHEELS

have given a new lease of life to thousands of old wagons. They can be had in any desired height and any width of tire up to 8 inches. With a set of these wheels you can in a few minutes have either a high or a low down wagon. The Electric Handy Wagon is made by skilled workmen, of best selected material—white hickory axles, steel wheels, steel hubs, etc. Guaranteed to carry 4000 lbs. Here is the wagon that will save money for you, as it lasts almost forever. Our catalog describing the uses of these wheels and wagons sent free. Write for it. ELECTRIC WHEEL CO., BOX 146 QUINCY, ILLINOIS.



WE'LL PAY THE FREIGHT

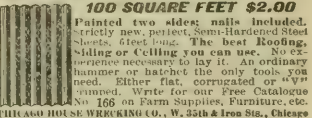
and send 4 Buggy Wheels, Steel Tire on, - \$7.25 With Rubber Tire, \$12.00, 1 mg. wheels $\frac{3}{4}$ to 1 in. tread. Top Buggy, \$25.75. Harness, \$5.00. Write for catalogue. Learn how to buy vehicle and parts direct. Wagon Umbrella FREE. W. A. BOOB, Cincinnati, O.

SAW YOUR WOOD



With a FOLDING SAWING MACHINE, 9 CORDS by ONE MAN in 10 hours. Send for FREE illus. catalogue showing latest improvements and testimonials from thousands. First order receives special Folding Sawing Mach. Co. 55 N. Jefferson St. Chicago, Ill

STEEL ROOFING



100 SQUARE FEET \$2.00 Painted, two sides made inside. Strictly new, perfect, Semi-Hardened Steel Sheets, free from. The best Roofing, sliding or, filling, turned out. No experience necessary to lay it. An ordinary hammer or hatchet the only tools you need. Either flat, corrugated or "V" shaped. Write for our Free Catalogue No. 166 on Farm Supplies, Furniture, etc. CHAS AND HOUSE WORKING CO., W. 32th & Iron St., Chicago

WARRINER'S
CHAIN HANGING
STANCHION.
CLEAN, SAFE,
COMFORTABLE.
Mfg. by W.B. CRUMB, Forestville, Conn.

WANTED.

WANTED.

To send to every town sample of the new "Kant-Klog" Sprayer. First applicant gets wholesale prices and agency. Big money made with sprayer during winter. Full particulars free. Address: Rochester Spray Pump Co., 21 EAST AVE., ROCHESTER, N.Y.

TENT CATERPILLER DESTROYER.



MANUFACTURED AND SOLD BY R.B. WILLIAMSON, CLIFTON SPRINGS, N.Y.

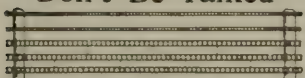


WIRE • FENCE

Heavy lateral wires, heavy hard steel stays, cold spring wire, Sure Grip Lock. In strength appearance and durability, the Hard Steel can not be excelled. Write for catalogue and price.

THE HARD STEEL FENCE CO., Cuyahoga Falls, O.

Don't Be Talked



Into buying a weak flimsy fence, buy one that has strength and durability that you get your money's worth. Let us mail you free sample.

The True & Cable Fence Co., 60 Cuyahoga Bldg., Cleveland, O.

2,000 Coils

of No. 8 Galvanized Fencing Wire For SALE.

Price, \$2.40 cash per 100 lbs. Average weight of coils, 112 lbs.

RICHMOND MERCHANDISE AND TRADING CO., Richmond, Va.



DON'T YOU WANT

to try a better fence this year than that you bought last year? You'll find it in the PAGE.

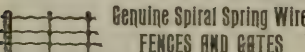
PAGE WOVEN WIRE FENCE CO.: Adrian, Mich.



WIRE \$1.40 PER 100 LBS.

SMOOTH GALVANIZED WIRE put out 100 lbs. to a bale, gauges from 14 to 4 inclusive. Lengths running up to 50 ft. Per 100 lbs. \$1.40. Fence Staples, 80 lbs. per 100 lbs. \$1.40. Wire Nails, assorted in a keg, per 100 lbs. \$1.70. Barbed Wire, on low prices. Ask for free catalogue No. 11, on application, a kind from Sheriffs and Receptacles.

CHICAGO HOUSE WIRE CO., 219 & 100 N. Chicago.



Genuine Spiral Spring Wire FENCES AND GATES

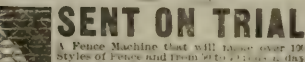
If your dealer does not have our goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency.

INTERNATIONAL FENCE AND F. CO., Columbus, Ohio.



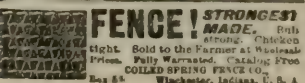
LAWN FENCE

Many designs. (Check as required, 22 page Catalogue free. Special Prices to Commercial and Churches. Address: COILED SPRING FENCE CO., Box 9, Winchester, Ind.



SENT ON TRIAL

A Fence Machine that will fence over 100 styles of Fence and from 20 to 40 ft. long at ACTUAL COST OF WIRE. Horse-hill, Ballston, and other high-quality wire at Wholesale Prices. Catalogue free. Kitchman Bros. Box 165 Muncie, Ind.



FENCE! STRONGEST MADE.

Both sides of the wire are galvanized. Fully warranted. Catalogue free. COILED SPRING FENCE CO., Box 9, Winchester, Indiana, U. S. A.

THE BEEF BREEDS.

The present position and future of the three great beef breeds, as evidenced by the International show.

(We take the following comment on the breeds from representative breeders writing for the Breeders' Gazette.—Ed.)

HEREFORDS.

The position of the Herefords as one of the greatest if not the premier beef breed of America appears to be more firmly entrenched than ever. Recent events, most notably the International, have emphasized the great merit and the wonderful popularity of this breed. Despite many unfavorable influences, such as internal strife in the association and the general decline in values of beef cattle, as well as pure-bred stock, and although many of the most successful and well-known showmen of the breed were, unfortunately, not represented, the exhibit of Herefords at the International was of such merit as to make the heart of every Hereford breeder rejoice. The hardy and rugged white-faced grazers—hustlers and rustlers everywhere—fought their way to the front places in nearly every inter-breed contest in the great show. The exigencies of the present low-price period demand just such easy keeping and early maturing cattle as were placed at the head of those wonderful classes, and as the basis of these decisions, as stated by the Scottish judge, was their fitness for the block, the farmer and the feeder, who of necessity has the block as the goal for his cattle, has in these winners the ideal type for their breeding and feeding cattle—the Hereford type, compact, close to the ground, with ample bone; good side and top lines, full heart girth, a symmetrical frame well covered and filled with valuable cuts, a type with little waste for the butcher, and with a grand, intelligent head for the breeder; a head full of character, refinement and promise of future usefulness in the herd. The "white-face" victory was made more emphatic when the car-load of yearling Herefords was made the grand champion load of the show, being a victory for early maturity and a substantiation of all claims that have been made as to the early maturing qualities of this breed. "Truly a great Hereford show," would be an apt appellation for the recent International, and that can be said without a desire to cast a shadow over the magnificent showing of the other beef breeds. * * *

Grass has certainly been produced for the farmer as his most profitable crop, and the Hereford has no doubt been created as the best converter of that crop into prime beef. Compare the broad, capacious muzzle and the powerful jaw of the Hereford with the long, slender head and small nose of the other breeds; the short, wide head and short neck, short legs and strong bone. This beast truly was intended

UNION LOCK POULTRY FENCING

HAS BEEN FULLY TESTED AND FOUND SUPERIOR TO ALL OTHERS.



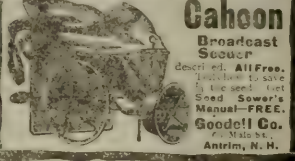
Will fit uneven ground without cutting. Every part can be stretched perfectly. Made of high grade galvanized steel wire. All horizontal lines are cables, making it stronger. Has fine mesh at the bottom for small chicks. We also make extra heavy for arenas, lawns, etc. The largest poultry farms are using this fence—over 700 rods by Lakewood (N. J.) Farm Co. We pay freight and satisfy every one on no sale. Can ship from N. Y., Chicago, or San Francisco. Write for free catalog of Farm, Lawn and Poultry Fencing.

CASE BROS., Box 340, Colchester, Conn.

FENCE We'll tell you the cheapest and best way to build it. Of any kind of wire, for any requirement, with cheap labor, no machine and we'll tell you how to fix your old fences too. Write B. B. FENCE CO., 142 W. 3rd St., Peru, Ind.

How to Sow Seed

For the most successful results, you must use what are treated with the best seed treatment.



Cahoon
Broadcast Seeder
described All Free.
Indicates to save the seed. Let Seed Saver's Manual—FREE.
Goodell Co.
St. Louis, Mo.
Antony, N. H.

FEED MILLS.

Every Man His Own Miller.

The latest improved. Does all kinds of work. Most durable; has ground over 15,000 bushels without repair or expense. The fastest grinder; has ground 300 bushels in 4 hours. Lightest draft and lowest price. The World's Best! Send for prices to the manufacturers.

N. M. FIELD MFG. CO., St. Louis, Mo.

WELL DRILLING MACHINES

The most successful money-making machines ever made. Also machines for boring wells with augers by horse power. Write as if you mean business.

Loomis Machine Co., Tiffin, Ohio.

ARTESIAN WELLS

DRILLED ANYWHERE.

I use the most modern machinery, execute orders promptly and guarantee satisfaction. Correspondence solicited.

JNO. W. RANDALL, White Plains, N. Y.

NO HUMBUG

George E. Ross, Mr. FAIRFIELD, IOWA.



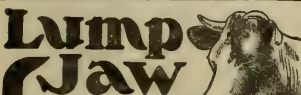
BLACKMAN'S MEDICATED SALT BRICK

The only guaranteed Tonic, Blood Purifier, Kidney and Liver Regulator and Aider of Digestion for all stock. A sure hit on worms. Ticks cannot live. No dosing, no drenching, and no waste of feed. Your horse his own doctor. Endorsed by thousands.

full descriptive circulars, testimonials, etc. address

Blackman Stock Remedy Co.

920 Highland Park, Chattanooga, Tenn.



Save the animal—save your herd—cure every case of Lump-Jaw. The disease is fatal in time, and it spreads. Only one way to cure it—use

Fleming's Lump Jaw Cure

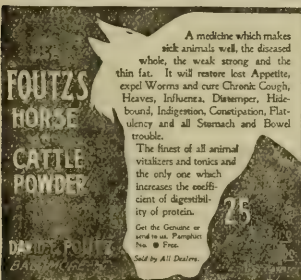
No trouble—rub it on. No risk—your money back if it ever fails. Used for seven years by nearly all the big stockmen. Free book tells you more.

Spavin and Ring-bone

Once hard to cure—easy now. A 45-minute treatment does it. No other method so easy—no other method sure.

Fleming's Spavin and Ringbone Paste cures even the worst cases—none too old or bad. Money back if it ever fails. Free illustrated book about Lump Jaw, Spavin, Ringbone, Splint, Hot Spavin and other stock ailments. Write for it.

FLEMING BROS., Chemists,
260 Calton Stock Yards, Chicago, Ill.



A medicine which makes sick animals well, the diseased whole, the weak strong and the thin fat. It will restore lost Appetite, expel Worms and cure Chronic Cough, Hoarseness, Influenza, Diarrhea, Flatulency, Indigestion, Constipation, Hiccups and all Stomach and Bowel trouble.

The finest of all animal vitalizers and tonics and the only one which increases the coefficient of digestibility of protein.

Get the Genuine and use as directed. Sold by All Dealers.

DEATH TO WEAVERS



NEWTON'S Horse, Cough, Wind-temper and Indigestion Cure. A veterinary specific for wind, flatulency and stomach troubles. Strongly recommended. \$1.00 per case. Dealers. Mail or Ex. paid. Newton Horse Remedy Co., Toledo, Ohio.

to go over the pastures much as does the great modern wheat header, thrasher, and sacker combined, harvesting the crop quicker and better than the old-time sickle, and all ready for market at one operation and one expense. The "white-face" is the up-to-date steer. He is only fast enough for the times. What a mouthful he crops at one bite! Taking less exercise and covering less territory, he quickly fills the first stomach; lies down and goes to making beef. In a mixed bunch of cattle, you will notice the Herefords all down first and masticating their quickly-harvested breakfast of grass, while the Short-horns and cattle of other breeds, with slender nose, long neck, leg, and large paunch, will not be down till the Herefords are almost ready to start again. Is there any better reason why the "Herefords" should make more beef from grass than any breed of which we have knowledge? Where man has a need, Nature invariably supplies the same, and that close at hand. Man has, through all the Eastern and most of the Middle States, by continuous robbing of the land produced a great sickness of the soil. Nature and the careful breeding operations of the founders and fosterers of the Hereford breed have provided a remedy. Talking with a Virginia farmer at the International, the writer was much impressed by his remark that the greatest need of his State and surrounding States was blue grass, clover and Hereford cattle. The combined use of these three great producers of wealth will in a decade restore to former conditions of fertility the soil, will double or triple the value of these farms, and develop a condition of thrift unsurpassed by that even existing in the vales and hills of Western England. A remark made recently by one of our local butchers impressed me with the fact that ultimately the breeding and feeding cattle of all the Middle States must one day wear that stamp of excellence, the white face. He said: "While I cut many good carcasses from grade Short-horn, Angus, and cattle of mixed breeding, I rarely find a white-faced steer or heifer that does not cut out more profitable meat for me than the average, and I can even afford to pay a little more money for them and still make more profit. Besides that, their rich-ribbed carcasses attract more attention hanging in my shop, and increase my sales of good meat. What I like is the average of the Hereford carcasses; they are nearly always good." Another butcher very recently pointed to a carcass hanging in his shop, stating that there was a heifer that had been without a bite of grain for a year, and was the fattest beef he had butchered in a year.

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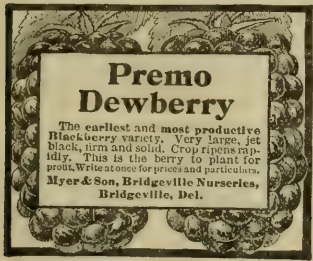
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outstanding quality of the "doddie." Then there were a few importers proclaiming facts that sounded like fiction regarding the premium paid for Angus beef in the markets of the Old World. Now there are three thousand good American cattle-men interested in the welfare of this great breed, and nearly one thousand breeders recording cattle, while the "fairy tales" of the early importers have been demonstrated to be true by fifteen years of consecutive market-topping in the greatest fat cattle markets of our country. Then Black Prince, imported especially for the occasion, won down on the Lake Front at the old American Fat Stock Show in Chicago, with only a few of the faithful to do him honor. Now the Angus grand champions at the International Exposition are the popular ones, and are crowned amid the greatest clatter and enthusiasm, and where an Angus contestant for grand champion honors fails to receive the purple ribbon, applause is withheld and the judge himself feels that he has made a mistake, and begins at once defending his position on the award. Then, Angus breeders would have been exceedingly proud of a grand championship. Now they expect it, and, like spoiled children accustomed to being denied nothing, are absolutely broken-hearted if they fail to get it.

Especially is this true in car-loads where fourteen years prior to this year they have furnished the highest-priced car-load each year sold on the American markets. This year they were so unfortunate as to have their crack car-load protested on account of age. The contest was for the best car-load, any age or breed, and this load was given the award by the judge, yet, as it was not properly entered in its class, it was thrown out of the show altogether, and the reserve Hereford load was given the grand championship. The Angus were thus deprived of furnishing the highest-priced car-load of 1903, as the price went simply as the International Exposition ribbon went. Including this reserve champion load, which was awarded the grand champion prize, there were sold at public auction during the International Exposition of 1903, according to *The Gazette*, twenty-four car-loads of grade Herefords at an average of \$5.96 per cwt.; twenty-four car-loads of grade Short-horns at an average of \$5.63 per cwt., and twenty-four car-loads of grade Aberdeen-Angus at an average of 6.33 per cwt., being 37 cents per cwt. more than the Herefords and 70 cents per cwt. more than the Short-horns, in actual competition at auction among stock-yards buyers. So that the term "market topper," as applied years ago by your journal to the Aberdeen-Angus breed is as applicable as ever, and they still mean one and the same thing. These prices prove that it is not impossible to find one load of some other breed that will equal in quality

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80 acres—15 acres in hardwood, balance in grass, except 20 acres for corn. Fronts on pike; 5 miles from railroad station. Watered by large branch. All in good state of cultivation. No buildings. Price \$18.00 per acre. Easy terms.

No. 19.

215 acres in upper Fairfax county, 20 miles from Washington; 6 miles from railroad; fronts on pike; near village with stores, post-office, churches and shops. Splendid brown chocolate clay soil. Seven fields, watered by branches and springs. A good 6-room frame house and all necessary farm buildings; 60 acres sown in wheat and grass; 25 in rye and grass; 30 in meadow, balance in pasture and for corn—all in good condition. Price, \$25.00 per acre; one-third cash, balance on 6 years' time, if desired.

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WASHINGTON NOTES.

In many farm sections the usual method of disposing of the body of a dead animal is to drag it off into the woods and let the crows and buzzards make away with it. As the country becomes more thickly settled, this practice carries a serious menace, especially where animals die of contagious diseases. It has even been found that in cases of virulent diseases, like anthrax, ordinary burying is not an entire safeguard. The germs of such diseases retain life for many years, even in the soil; if they are left above ground or thrown into a ditch or stream, the danger of disseminating the disease is increased many fold. The Department of Agriculture recommends deep-burying of such diseased bodies, with the free use of lime, and also burning. The Nevada station recommends the lime method for small animals, and burning for large ones. Professor McDowell, of that station, describes the complete destruction of a thirteen-hundred pound body, burned in a trench three feet deep, through the use of five gallons of kerosene oil, five-eighths of a cord of wood, and the time of two men each for two and one-half hours. If the animal is to be dragged any distance, it should be placed upon a litter or rough sled, which should also be burned; otherwise germs may be distributed along the entire trail.

The Department of Agriculture has in type a timely farm publication, entitled "Rations for Laying Hens." Professor Wheeler, of the New York Experiment Station, states that when the egg yield of a hen is one hundred per year, the production of a pound of eggs required 4.56 pounds of digestible organic nutriment in the feed, and as the egg yield increases, the proportion of nutrients increases. The natural feed of poultry, it is stated, consists of grain, insects, green forage and grit, and, accordingly, in domestication, it is reasonable that they should be fed cereal grains and mill products, such animal foods as meat, meals, and skimmed milk, and also an abundance of green food, or such substitutes for it as roots or steamed clover. Oyster shells, grit, and an abundance of clean drinking water are also prime requirements.

Why not determine to spray every apple tree this spring and not have a wormy apple. Spraying against some of the fungus diseases, such as grape rot, for instance, is a very laborious task, since the operation has to commence with the first swelling of the buds, and be repeated every fifteen or sixteen days until the grapes are pretty nearly grown, so that if one has only a small private vineyard it may well be considered too much trouble; but killing the codlin moth and having worm free apples is too easy and simple a task to let go by. The moth lays its egg in the blossom, and all you

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POSITION WANTED by a young man on a stock farm. Understands veterinary science. Address WM. N. E., Ferguson's Wharf, Va.

Mention the SOUTHERN PLANTER in writing.

want is to get some Bordeaux mixture and arsenic there first, so that the young larva will eat and die.

In the United States corn is a favorite feed for chickens, though, as Professor states, common grains "seem practically interchangeable."

In Ontario, an important poultry region, according to Professor Graham, of the Ontario Agricultural College, wheat is the most popular feed. Corn is not used there to so great an extent as in New England, though, he believes, from its high fuel value, that it is an important addition to winter rations. Oats, owing to the large percentage of hull, are somewhat indigestible. Barley is very good, and by many considered next to wheat.

The practice of successful poultry raisers and the results of numerous tests show that the day's rations should be made up of both whole grain and grain ground up into a mash.

Opinions differ as to the proper time for feeding whole grain and mash. An objection to feeding mash in the morning, it is stated, is that the hen is likely to become gorged with food and take to the roost for the rest of the day, resulting in her becoming too fat and egg production small. The objection to feeding the mash at night is that it becomes quickly digested, and the bird has not sufficient food to last it during the long winter night; but this objection can be overcome by giving a little whole grain after the mash at night.

In experiments at the West Virginia station, the egg production was practically the same, whether the mash was fed in the morning or at night.

A test at the Utah station showed that pullets fed dried blood as a part of the ration began to lay earlier than those given none.

The experiments of the New York station bring out very clearly the importance of providing laying hens with rations containing an abundance of mineral matter, a point sometimes neglected. Rations should be well supplied with lime and phosphates, essential in the formation of bone, shells and tissues. Mineral matter is largely lacking in grains, but can be supplied by animal food, oyster shells and bone ash.

* * *

An effective way to retard early swelling of fruit buds, which are thus liable to get nipped by a late spring frost, is to spray with whitewash. White surfaces, it is well known, will not readily absorb the sun's rays, and experiments have shown that treatment of this sort on peach trees has delayed blossoming nearly a week.

* * *

Okra is a plant which should be in every garden. Okra soup is a great Southern dish, but in the North it is not so well or generally known. The plant is a prolific yielder, though it is a little hard to start in heavy

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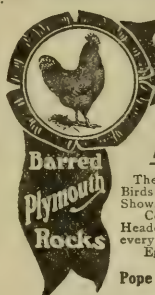
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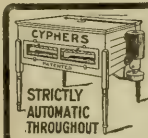
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PROFITABLE "PEEPERS"

Welcome sounds—the first faint "peeps" from crackling shells—heard coming from the evenly heated egg chamber of the

Sure Hatch Incubator

Those sounds mean money profit for the owner. A Sure Hatch starts chicks in life with strong lungs, solid bodies and good constitutions. Our free catalogue 1932 tells how. Write now.

Sure Hatch Incubator Co., Clay Center, Neb., or Indianapolis, Ind.



S. C. WHITE LEGHORNS

Of fine quality. Great laying strain. Prices very reasonable. Satisfaction guaranteed. Write for prices before buying elsewhere. C. G. H. FINK, R. F. D. 2, Richmond, Va.

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A certain and never failing Business Hatcher. Reasonable in price; best in quality, and always reliable. Thousands of these machines are in successful operation here at home and abroad. Our handsome catalogue is free for the asking, send for a copy at once, before you select a machine and make a mistake. Address The Standard F. C. Incubator Co., Dept. 23, Rochester, N. Y. Mention this Journal.



VICTOR Incubators

are truthfully pictured and their actual working to be seen in about 10 of the 30 pages of our new catalogue. The rest of the book gives information about the chicken business. We begin the story in the egg and end it with the marketing of the fowls. There's knowledge which will benefit anyone and may mean dollars to you. Our incubators are driving hens out of business. They work regardless of weather or of season. You can count on hatching every fertile egg. Money back from 11 weeks. We pay freight. The book is free. Just say "Send Victor Book" and we'll do it. GEO. ERTEL CO., Quincy, Ill.

CHICKS THAT LIVE

get strong and healthy—gain steadily in weight, are chicks hatched in reliable incubators.

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provides automatically a constant current of colorless, warm air at a uniform temperature—chicks pip, hatch and thrive under its nature-like conditions. Send 10 cents and we'll send you our annual catalogue—full of poultry information. Reliable Incubator and Brooder Co., Box 8-11, Quincy, Ill.



SPECIAL OFFER to the readers

We will send a Hundred and Ten Egg

"MICHIGANDER"

Hot Water Incubator only \$10

and allow you to try for 20 Days Free, Tied

and known to be perfect. Get a Catalog Free.

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is made by installing a Hawkeye Incubator. Little cost, little care, results sure, profits large. 80 Days' Free Trial. Catalog free. Mention this paper—Hawkeye Incubator Co., Box 49, Newton, Iowa.



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You can do this easily with common tools and materials. Have More Than Half a Our Complete Book of Plans instructs fully. We sell you at cost all fixtures like Tank, Lamp, Regulator, etc. No Experience. Handsome Catalog Free. CHANUS, SNOW & CO., Dept. 158 Quincy, Ill.



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UNTIL THEY ARE USED.

ZINKET SYSTEM.

A FILLER, PRESERVER, TESTER AND CARRIER. INSTRUCTIVE IN FIRE OR WATER. TESTIMONIALS AND BOOKLET FREE. SHIPPER THAN STANDARD



National Egg Carrier Co. SCRANTON, PA.



LIVE AGENTS WANTED.



Mention the SOUTHERN PLANTER in writing.

ground, and should be sowed thick enough to allow for thinning three-fourths of the plants. A row fifty feet in length will supply a large family, and also dried pods enough for many fine winter soups. It is about as good this way as fresh, and, to my taste, fully as good as the canned okra, which is quite expensive.

As a cultivated plant, the Dandelion is assuming a place of some importance in farm gardens, and in the New England market gardens it is grown extensively, yielding large returns per acre. They are sown in the early spring, cultivated during the summer, and thinned to eight or ten inches apart. They are not fit for market until the following spring, and are then best when partially blanched. The Maine station states that they can be grown profitably at 50 cents per bushel, though the price received is often much higher.

The good roads sentiment is apparently growing. Representative Aiken, of South Carolina, has just introduced a bill similar to the one introduced the other day in the Senate by Senator Lalimer, of the same State. It provides for a Bureau of Highways and for the construction of good roads by the Federal Government and the States in co-operation, each to bear one-half of the expense. The bill appropriates \$24,000,000 for this purpose.

Representative Trimble, of Kentucky, has introduced a bill to prevent the adulteration of blue grass, orchard grass and clover seed. Authority is given the Department of Agriculture to inspect all such seeds offered for sale, and any adulteration, mixing or misbranding discovered will subject the offenders to fines ranging from \$100 to \$1,000 for each offence, and also imprisonment. The bill is carefully drawn, and discusses the various species and varieties of blue grass, clover and orchard grass, and their adulterates, at some length.

Adulteration of all of these grasses, and particularly Kentucky blue grass, appears to be a common practice with many seed men. For this purpose, Canada blue grass (poa compressa) is used in mixture with Kentucky blue grass (poa pratensis), and many samples received by the Bureau of Plant Industry have been found to contain a major portion of the inferior or Canada species. More than five per cent. of the inferior species is considered, in the meaning of the bill, an "adulteration." The bill gives the Department of Agriculture authority to act only in cases of interstate shipments or importations.

Temple Farm, Yorktown, Va., the scene of the surrender of Lord Cornwallis, is to be purchased by the Government, if a bill introduced by Repre-

MOOREWOOD POULTRY FARM, Wiseville, Chesterfield Co., Virginia.



Highest Grade B. P. ROCKS, W. WYANDOTTES, S. C. BLACK MINORCAS. Breeding and Exhibition Stock and Eggs for sale at all times. Prices reasonable. Write to-day for our LARGE ILLUSTRATED CATALOGUE and POULTRY GUIDE, inclosing two-cent stamp.

At the Great Richmond Shows of 1902 and 1903, our stock won THIRTY-FOUR PRIZES, TEN OF THEM FIRSTS. No better utility stock can be had.

E. F. SOMMERS, - Somerset, Va.

Breeder of the finest line bred

Barred Plymouth Rocks

exclusively for 14 years. Write to me for what you want. Am sure can please you. My birds have been bred for laying qualities as well as shape and plumage. Cockerels, \$1 to \$2; eggs, \$1 per set of 15; 2 sets, \$1.00; M. B. Turkey eggs, \$3 per dozen.

WALSH'S

Barred Plymouth Rocks

High class combination utility and exhibition stock. Best blood. Bred from prolific layers of large brood eggs. Eggs, \$1.50 per 15.

L. W. WALSH,

Box 194, Lynchburg, Va.

B. P. Rock Cockerels.

A few superb birds at \$2.50 each. Returns if not satisfactory, and your money will be refunded. SUNNYSIDE POULTRY FARM, Christiansburg, Va. Reference: Bank of Christiansburg, Va.

Barred Plymouth Rock

EGGS FOR HATCHING

From my heavy laying strain, \$1 per 15.

DON. M. McLEAN, Maxton, N. C.

FOR SALE

B. Plymouth Rock Cockerels of Hawkin and other noted strains.

MARVIN P. KLINE, Vacluse, Va.

HOLLYBROOK FARM.

..EGGS FOR SITTING..

From Pure-bred Poultry.

In our poultry yards we have the following thoroughly bred poultry, all first-class stock, originally started from the best stock in this country, and carefully cross-mated so as to give strong and vigorous stock and the best laying strains of the different breeds that it is possible to obtain:

BARRED P. ROCKS. \$1.00 per sitting.
LIGHT BRAHMAS. \$2.00 per sitting.
SILVER LACED WYANDOTTES. Price, \$1.50 per sitting.

WHITE WYANDOTTES. \$1.50 per sitting.
In addition to careful breeding, we pay special attention to the handling and packing of our Eggs, so as to ensure good fertility and a good hatch.

We have also for sale a few first-class young cockerels of BARRED PLYMOUTH ROCKS, SILVER LACED and WHITE WYANDOTTES. Price, \$1.50 and \$2 each, crated for shipment.

HENRY W. WOOD, Richmond, Va.
P. O. Box 330. Hollybrook Farm.

BUFF ROCKS.

EGGS from Choicely

Mated Birds. ❖ ❖ ❖

The best general purpose fowl in existence.

PRICES VERY REASONABLE.

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H. L. TROLINGER, - - Pulaski, Va.

EGGS from Fine Fowls.

Barred, Buff and White Plymouth Rocks; Silver, White, Buff and Partridge Wyandottes; Black Minorcas; Black Langshans; Light Brahmas; Buff and Partridge Cochins; White and Brown Leghorns.

◆◆◆ 15 FOR \$1.00 ◆◆◆

except the Wyandottes which are \$2.00 for 15
No stock except a few B. P. Rocks and Light Brahmas. C. J. WARINER, Mgr., Ruffin, N. C.
OAKLAND POULTRY FARM.

BARRED PLYMOUTH ROCKS

—EXCLUSIVELY—

Strong, healthy, vigorous, farm-raised stock, bred for laying eggs.

75 CENTS PER SITTING.

WM. B. LEWIS, Irby, Nottoway Co., Va.

EGGS! EGGS!! and PIGS! PIGS!!

If you are pleased, tell your friends,
If not, tell us—but don't forget
That only the best is bred at
THE CEDARS P. & S. FARM.

Now booking orders for Eggs and Pigs for spring delivery. Finest B. P. Rocks in Va. and Giant Jumbo strain N. B. Turkeys. Protection Duroc Jersey and Perfection Poland China pigs.
WM. G. OWENS, Midlothian, Va.

Mention the SOUTHERN PLANTER in writing.

sentative Maynard, of Virginia, becomes a law. This farm comprises about five hundred acres, and the old manor house was used as the headquarters of Washington, Lafayette and Rochambeau. The Government has already erected a handsome monument at Yorktown to commemorate this victory, but its surroundings are neglected. Considerable sentiment, Mr. Maynard says, has already been worked up in favor of this movement, including memorials from the legislatures of Maryland, Ohio, New York, Delaware, North Carolina, Massachusetts, West Virginia, Utah and South Carolina, and also various patriotic organizations. * * *

Don't make the mistake of putting sawdust on between the strawberry rows or, in fact, on any cultivated land. It is ruinous.

GUY E. MITCHELL.

Hartford City, Ind., Jan. 15, 1904.
Dr. Jos. Haas, V. S.,
Indianapolis, Ind.

Dear Sir:

When I received your Hog Remedy my hogs had the cholera in earnest. Out of seventeen shoats, four had died and five were sick when the Remedy arrived. Four of the five that were sick died, as they were too far gone to eat, but the other was able to eat, and is now well and doing fine. No more took sick, and all are doing well now. Have been feeding them your Remedy twice a day. I had two young sows that would weigh 175 lbs. each that took very sick, and would not eat for three days. I took them away from the rest of the herd and put them where they could get no food except that which I gave them. I mixed some of your remedy in mill feed and put it before them. At the end of the third day they ate a little, and now, at the end of the tenth day, they are eating, and seem to be all right, and no one could tell they were ever sick. If there is any sickness in the rest of the herd, I have not been able to detect it. I have been feeding your Remedy every day for ten days. I will say this for Dr. Haas' Hog Remedy: It is the only Remedy that I have ever fed that I thought did any good. I will always feed it, for I am satisfied it has arrested disease in my herd.

Yours truly,

R. F. D. 10.

DAVID MELICK.

The "Acme" Pulverizing Harrow is made entirely of cast steel and wrought iron—is, therefore, practically indestructible.

Before deciding upon buying an incubator, write the George Ertel Company, Quincy, Ill., for a copy of "The Victor Book." It is free, and will be gladly sent. It contains lots of valuable information. Just use a postal card.

LEGHORN POULTRY FARM



Has for sale a limited number of S. G. BROWN and S. C. WHITE LEGHORN Pullets and Roosters. Best layers known, Prize Winning Stock. Price, \$1.00, \$1.50 each. Eggs in season at \$1.00 for 16; \$2.50 for 50; \$5.00 per 100. Satisfaction guaranteed.

Address A. T. MATTHEWS, Box 36, Parkleys, Va

.. Eggs for Sitting. ..

When you want eggs for your incubator or hens, why not give me a trial and get as good as the best at cut-throat prices. BARRED P. ROCKS, WHITE WYANDOTTES, LIGHT BRAHMAS, WHITE and BUFF ORPINGTONS. A number of Cockerels for sale.

BRUSHY HILL POULTRY YARDS,
O. E. SHOOK, Prop., New Sterlitz, N. C.

SILVER-LACED
WYANDOTTES.

New blood, choice specimens, strong and healthy birds of fine plumage, ready for shipment at \$1.00 each. Also pure-bred POLAND-CHINA PIGS at \$5.00 each.

Dr. H. LEE,

Lexington, Va.

EGGS for sale.

From Prize Winning BUFF LEGHORNS and BARRED PLYMOUTH ROCKS. Also choice Barred Rock Cockerels (Miles Strain).

MISS JULIA P. JONES,

Bethania, N. C.

FOR SALE

M. B. Turkeys, B. P. Rocks, White Wyandotte and S. C. B. Leghorns (the great winter layers) Chickens; Pekin Ducks, all of finest stock. Address Miss CLARA L. SMITH, CROXTON, Caroline Co., Va.

EGGS for SITTING.

Pure-bred B. P. ROCK Eggs,

—\$1.25 FOR 15—

P. MAXWELL CONNER, Box 316, Richmond, Va

Farm-Raised Poultry.

Two distinct flocks of Mammoth Bronze Turkeys from which we make matings for breeding purposes at reasonable prices. Eggs in season.

BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS.

BIRDS AND EGGS.

PROGRESS FARM, Box 52, Normandy, Tenn

PIT GAMES

Black Devils and Red Cubans.

These cocks won 90 per cent. of battles fought in 1902 and 1903, and have never lost a battle when gameness and cutting qualities could win. Eggs \$2 per 15; stock for sale.

THOS. W. JARMAN, Yancey Mills, Va.

ORPINGTON CHICKENS and POLAND-CHINA PIGS.

"EGGS" from my best strain of Buff Orpingtons, \$1.00 per 15, \$3.00 per 50. A few Cockerels at \$1.00 to \$1.50. Poland-China Pigs 8 to 10 wks. old at \$3.75 each, or \$7.00 pair, \$10.00 trio. These carry the very best blood.

OCONEECHIE FARM,
Mecklenburg Co. JEFFRESS, VA.

PURE-BRED

M. B. Turkeys, FOR SALE

Toms, \$3.00; hens, \$2.50. Also

B. P. Rock Cockerels, \$1.00 each.

C. T. JOHNSON, Beaver Dam, Va.

EGGS for HATCHING.

75c. Per Sitting of 15.

Light Brahmas, Black Minorcas, S. L. Wyandottes, Barred and W. Rocks, Brown Leghorns S. and R. C; White Leghorns S. C.

A few more Leghorn and Minorca Cockerels left. J. B. JOHNSON, MANDASAS, Va. CLOVER HILL FARM.

40 VARIETIES

BEST POULTRY.

Fine large Poultry Guide, 6c. You cannot afford to be without it. Price List FREE. Write to day.

JOHN E. HEATWOLE, Harrisonburg, Va.

MY PURE-BRED

S. C. Brown Leghorns,

Are the best layers in the world—lay at all seasons. Place your orders early for eggs, 15 for \$1.

W. S. GUTHRIE, Childress, Va.

OKASHADE N. B. Turkeys

and Huguenot W. Wyandottes,

— FOR SALE —

Raised on 400 acre blue grass farm—the best I have ever seen. Eggs from White, Buff and Partridge Wyandottes in season Address Huguenot Poultry Yards, ... Dublin, Va.

THE EDITOR OF THE RURAL NEW YORKER,

than whom there is no better potato expert in the country, says: "Salzer's Earliest Potato is the earliest of 38 earliest sorts, tried by me, yielding 464 bu. per acre." Salzer's Early Wisconsin yielded for the Rural New Yorker 736 bu. per acre. Now Salzer has heavier yielding varieties than above. See Salzer's catalogue. Just send 10c. in stamps and this notice to the John A. Salzer Seed Company, La Crosse, Wis., and receive lots of farm seed samples and their big catalogue, which is brimful of rare things for the gardener and farmer, easily worth \$100.00 to every wide-awake farmer.

It describes Salzer's Teosinte, yielding 160,000 lbs. per acre of rich, green fodder; Salzer's Victoria Rape, yielding 60,000 lbs. of sheep and hog food per acre, together with Salzer's New National Oats, which has a record of 300 bu. per acre in 30 States; so, also, full description of Alfalfa Clover, Giant Incarnat Clover, Alsike, Timothy, and thousands of other fodder plants, Grasses, Wheat, Speltz, Barleys, etc.

We are the only distillers in this country selling direct to consumers. Like every success, we have imitators who "claim" to be distillers. They are not distillers, and have no connection with a distillery. For proof, you need not take our word. Just see Government reports! They are simply dealers, and can "doctor" their whiskey as much as they like and call it any age, for, unfortunately, the Government does not control dealers as it does distillers. Now, these dealers are in business for profit, so when they offer 8 to 12-year-old whiskey for the same or less money than we, as distillers, can sell 7-year-old, the inference is plain. Their whiskey is not the age they claim, and is adulterated and watered. The cheaper they sell, the more water and adulteration you get. Beware of our imitators.

If you want honest whiskey, direct from our own distillery, with all its original richness and flavor, carrying a United States registered distiller's guarantee of purity and age, and saving you the dealers' enormous profits, then accept the offer we make you elsewhere in this paper. It is backed by a company with a capital of \$500,000.00 paid in full, the proud reputation of 35 years of continuous success, and over a quarter of a million satisfied customers, so you run no risk. The Hayner Distilling Company.

The "Acme" Pulverizing Harrow, while a "general-purpose" Harrow, is preeminently adapted to the preparation of ground for winter and other grain, where the drill is to be used, and for covering in the seed, where the drill is not used.

White Holland Turkeys.

I have a few very fine Toms left; first orders will get them. WHITE PLYMOUTH ROCK Cockerels—some nice ones. JOHN A. CLARK, Malvern Hill, Va.

EGGS FOR SALE.

WHITE HOLLAND Turkey Eggs \$2 per 10.

Rosecomb White Leghorn Eggs \$1.00 per 15; \$2.00 per 40.

White Plymouth Rock Eggs \$1.50 per 15.

Mrs. LIZZIE DYER, Versailles, Tenn.

FINE TURKEYS. "BRED FOR BREEDERS."

The Mammoth Bronze is the finest specimen of turkey in the world. I do not hesitate to say that I have the finest birds in Virginia. If you will file your orders now you will get choice ones out of a choice flock. I also have a few Barred Plymouth Rocks for sale. My fowls are all thorough bred. Write for circulars and rates.

PIEDMONT POULTRY PLACE.

Mias E. Cattle Giles, Prop. Whittle's Depot, Va.

Mammoth Bronze Turkeys, \$8.00 per trio, some half wild stock. Healthiest and best I ever raised; 2 year old Goblers, \$5.00. B. P. Rocks, (Hawkins's strain) trio \$4.00. Mrs. ANN E. WINN, Blantons, Va.

Hawksley Stock Farm

has 2 nice Berkshire Boars for sale, 6 mos. old; will have no more pigs to sell until April. A few S. C. B. Leghorn Cockerels left a \$1. each. Eggs in season. J. T. OLIVER, Allen's Level, Va.

BROWN LEGHORNS.

Young stock for sale in

Fall. Prices reasonable.

White Plymouth Rocks.

R. W. HAW, Jr., - - Centralia, Va.

S. C. WHITE GHORNS.

Fine Cockerels, Wyckoff strain, \$1.50. Fine Cockerels from Biltmore prize birds, \$2.00. Write for prices on pens, choice matings. Eggs per sitting, \$1.00.

Mrs. J. W. WALTERS, Christiansburg, Va.

COCKERELS FOR SALE,

Barred Plymouth Rock and S. C. B. Leghorn.

Biltmore and Thompson strains. Splendid birds \$1 each.

MRS. JNO. F. PAYNE,

University Station, Charlottesville, Va. CLAIRMONT DAIRY FARM.



HOW TO FEED AND BREED HOGS

is of importance to swine growers. A practical, clean, common-sense swine paper for farmers can be had from now to January, 1905, by sending 10 Cents in Silver at once to

BLOODED STOCK, Oxford, Pa.

I INSURE HOGS

and Pay for All That Die

when my Remedy is fed as a preventive. Write for plan. 28 years unparalleled success and the biggest money-maker for hog raisers known.



TRADE-MARK.

It will Prevent and Arrest Diseases, Expel Worms, Stop Cough and Pay for itself Many Times Over by the Extra Flesh Produced without Extra Feed.

PRICES: 25-lb. can, \$12.50; 12½-lb. can, \$6.50, prepaid; packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

Govans, Md., Nov. 18, 1903.

DR. JOS. HAAS, Indianapolis, Ind.:

Dear Sir,—Since I began feeding your Remedy my hogs have greatly improved, and none have died. My hogs were all sick before I began using the Remedy—in fact, I had lost about 70 head. Yours truly,
CHRISTIAN GERMAN.

HOG BOOK FREE

"HOG LOGY," my book about hog raising, will be sent FREE, if you mention Southern Planter when asking for it. It has been revised and enlarged, contains 100 pages, fully illustrated, practical and complete, and worth many dollars to any swine raiser.

JOS. HAAS, V. S.,
INDIANAPOLIS, IND.

Little Chicks

thrive when fed on our

BABY CHICK FOOD.

A perfect balanced food. Send for free sample and our large illustrated catalog of POULTRY SUPPLIES.

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EVERYTHING FOR THE FANCIER.

COLLIE PUPS

By Imported Sires. Sable and white and tri-colors. Prices, \$8 to \$15. Older ones correspondingly low. Book on Training, 50 cents: Free if you buy a Collie. MAPLE MOUNT STOCK FARM, Albany, Vermont.

GOOD HOUSEKEEPING.

CHICKEN PIE.

In these days of high prices, any hint as to how to make one chicken do the duty of two will be welcome to both city and country housekeepers, so I am reminding them of good, old-time chicken pie.

As Marian Harland would advise, "first catch your chicken," and do it at least a day before it is to be used. Dress it as for roasting, and put it into a closely-covered pot, with enough water to cover, and with a small piece of onion, a pinch of thyme, and a pinch of sage—not enough of any of these to give a decided taste—and let it boil until tender, but do not let it drop to pieces. Cut the chicken up, taking out the largest bones. Line the deep pan with a rich biscuit dough. Lay the pieces in and sprinkle pepper and salt over it. Slice three hard-boiled eggs over this, and pour the water the fowl was boiled in over it, adding some, if necessary, to cover the meat and eggs. Put dabs of butter about and sprinkle a generous handful of flour over the whole. Put the top crust on and bake to a rich brown. Make a small hole in the middle of the top crust to let the steam escape, and prevent spoiling the edges. The left-over scraps of a turkey or roast chicken make fine pies, and are made just the same way.

CELERY SAUCE.

This can be made with the outside pieces of the celery and small pieces of the root and ends, which are of no use for the table, and is good with almost any boiled meat or fowl. Wash and scrape the celery, cut it into small pieces, cover it with water, and boil until tender. Add a dust of nutmeg, salt and pepper. Cream a large tablespoon of butter with a tablespoon of flour to a pint of sauce. Take the celery out, rub it through a sieve and return it to the water with the butter and a cup of rich cream. Let it boil and it is ready for the table.

SALSFY CAKES.

Scrape the salsify and drop it into cold water for awhile; then boil until tender, and put through the potato masher; add to it equal parts of creamed Irish potatoes; beat well together, and to one quart of the mixture add a large spoon of butter, one raw egg, salt and pepper. Make it out into cakes as big as a biscuit and fry in hot lard.

TOMATO SAUCE.

With this we can make a very appetizing dish of a most untempting-looking cold roast of beef. Slice one large onion and put it on a hot pan, with a heaping tablespoon of butter and let it fry done, but not brown. To this add a half a can of tomatoes and let them cook until tender, then put them through a sieve. Return this to the pan and add a half-pint of soup stock, made of the bones of the cold roast, a teaspoon of black pepper, a teaspoon of

BERKSHIRES

WE HAVE THE BEST.

MINIBORYA FARM,

Box 901. RICHMOND, VA.

BERKSHIRE PIGS

Ready for January delivery, sired by my 18-months-old boar, CAPT. JACK 68623, who now weighs 680 lbs. in only fair breeding condition. The pigs are first-class in every respect and I will ship to responsible parties on approval. Am now booking orders for pigs March farrow by Lustre's Carlisle of Biltmore, 72057, recently purchased from Biltmore Farms.

WOODSIDE STOCK FARM,

Charlottesville, Va.

ACCOMAC HERD

Large ENGLISH BERKSHIRES.

A choice lot of young Boars and Glits now ready to ship; 60 nice pigs for spring shipment; the best English and American families. All stock eligible to registry. Write for prices.

ALFRED P. WHITE, JR.,
Parksley, Va.

English Berkshire Pigs,
8 weeks old, \$5.00 each.

Barred Plymouth Rocks,
\$1.00 each.

Eggs in Season at \$1.00 for 15.
M. E. ANDREWS, Hurt, Va.

HOLLYBROOK FARM.

Berkshire Pigs

Are from first-class registered stock, Biltmore strain; have free range and plenty of running water, and are healthy, vigorous stock. Young pigs for sale. Write for prices.

HENRY W. WOOD,

Box 330. RICHMOND, VA.

BERKSHIRE

Boars, bred by Biltmore Farms, for sale cheap. They are of the best blood, and are sure breeders. R. S. CAMERON & SON, Gloucester, Va.

BERKSHIRES

ANNEFIELD HERD
Represents the

Finest Blood Lines

In England or America.

Stook for sale at all times.

Correspondence Solicited.
Inspection Invited.

EDW. G. BUTLER, Annefield Farms,
Briggs, Clarke Co., Va.

THOROUGH-BRED....

Berkshire Boars, Dorset Buck Lambs, Jersey Bull Calves.

All stock in best of condition and
guaranteed as represented.

F. T. ENGLISH, Centreville, Md.

POLAND - CHINAS

For sale, 3 months old pigs not akin;
choice bred gilts 8 to 12 months old,
sired by a grandson of CHIEF TE-
CUMSEH 2d and CHIEF PERFEC-
TION 2nd & IDEAL SUNSHINE BOARS.
I also offer choice B. P. ROCK COCK-
ERELS. THOMAS R. SMITH,
Lincoln, Loudoun Co., Va.

ESSEX PIGS.

I am now offering
some splendid pigs,
not related, from re-
corded stock. You
cannot do better
than breed the Essex.

L. G. JONES, Bethania, N. C.

ESSEX SOWS.

Two fine ones, 8 mos. old, entitled to
registry; will SELL CHEAP as last we
will have. Registered **BERKSHIRE**
SHOATS cheap, and plenty of Berk-
shire pigs in the Spring.

DALKEITH STOCK FARM,

South Boston, Va.

Registered P. Chinas
Berkshire,
C. Whites. Fine large
strains. All ages, mated
not a in, 8 week, pigs.
Bred sows. Service boars
and Poultry. Write for prices and free circular.
P. F. HAMILTON, Cochranville, Chester Co., Pa.

Mention the SOUTHERN PLANTER in
writing.

celery seed, a dash of red pepper, salt
and a tablespoon of flour. Let it boil
up and it is ready. Serve with cold
sliced meat, or slice the meat and put
it into a pan with a small quantity of
nice drippings or butter. Let it get
hot, and after putting it on a large
dish pour the sauce over it. This
sauce is a delightful addition to broiled
steak, poured on just as you take it
from the fire.

BUCKWHEAT CAKES.

One quart of buckwheat flour, one
cup of corn meal, half a cup of yeast,
or half a yeast-cake soaked for two
hours before using; one teaspoon of
salt and one teaspoon of molasses;
enough water to make a stiff batter.
Beat in two eggs; set it to rise, and
in the morning stir in a teaspoon of
soda dissolved in a little warm water
and a large tablespoon of lard and but-
ter mixed. Fry on a very hot griddle,
with plenty of grease.

SYRUP (TO EAT WITH THE BUCKWHEAT CAKES.)

One pound of maple sugar and five
pounds of white sugar in five quarts of
water. Boil till there is only a gallon.
If you cannot get the maple sugar, use
six pounds of brown sugar, and season
it with the yellow inside bark of a
hickory-nut tree. The imitation is
almost perfect. I sometimes dissolve
a half-box of gelatine in the syrup just
before I take it off the stove. This
makes it so much thicker, and is a
variety.

MERINGUE PUDDING.

One quart of apples (the can-
ned ones do just as well as the fresh),
a cup and a half of sugar (more if the
apples are sour), the yolks of six eggs
beaten very light, the juice and grated
rind of one lemon, one cup of rich
milk, one dessertspoon of corn starch
dissolved in the milk. Beat all well to-
gether and bake in a deep pudding-
dish for forty minutes, then spread
over the top a meringue made of the
whites of the eggs beaten light with
six tablespoons of sugar and a tea-
spoon of vanilla. Put it back in the
oven and let it brown. Serve with
cream. This is good made with evapo-
rated apples or apricots.

HOME-MADE MUSTARD.

Four tablespoons of ground must-
ard, one tablespoon of flour, one table-
spoon of sugar, one teaspoon of salt,
one teaspoon of black pepper, one tea-
spoon of celery seed. Mix these in-
gredients together and then rub them
into a paste, with a little cold vinegar,
and pour over it one cup of boiling
vinegar. Let it boil up, and it will
keep any length of time.

SWEET PICKLE MADE OF EVAPORATED PEACHES.

In the springtime our pickle jars are
generally empty, or nearly so, and in
the country it is not so easy to fill
them at this season; so I think some
will be glad to know that the dried
fruit makes pickle almost, if not quite,
as good as the fresh. I like to use the

Filston Farm

Products Are Good

English Berkshires.

Berkshires are the most profitable
pigs to raise, because of their great
size, early maturity and the fine
quality of the meat. Breeders who
desire to improve the quality of
their stock will be interested in our
new folder about the young Filston
Berkshires, the progeny of noted
English prize-winners. Correspond-
ence solicited.

Filston Farm, Glencoe, Md.



O. I. C. PIGS

FROM REG. STOCK.

FOR SALE. PRICES RIGHT.

F. S. MICHIE, Charlottesville, Va.

Poland-Chinas and Chester Whites

AT FARMER'S PRICES.

S. M. WISECARVER, - - Rustburg, Va.

WHITE YORKSHIRE PIGS,

Entitled to registration, FOR SALE.

HENRY H. CLARKE, "Chantilly,"
Broad Street Road, Richmond, Va.

AURUS

FOR SALE.

Black horse, foaled 1895, by Eolus (sire of
Eole, St. Saviour, Eon, Morello, Russell
Diablo, Eurus, Eolian, Elkwood, Knight of
Ellerslie, etc.). Dam Sample by Imp. Rother-
hill (son of Lord Clifden); 2d dam Satilla by
Imp. Buckden (son of Lord Clifden); 3d dam
Matilda, by Imp. Sovereign (son of Emillius);
4th dam Ruby Mare, by Imp. Ruby (son of
Emillius); 5th dam Peytona, by Imp. Glen-
coe; and so on 18 crosses to a Royal Mare.

Aurus is a large, handsome horse 16 hands
high, weighs 1,250 pounds, with fine bone
and muscle, and a good disposition. Be-
lieved to be sound and a sure foal getter.
Sold for no fault. Peytona was, perhaps the
largest mare ever trained. She won the Pey-
ton stakes, four mile-heats, worth thirty
thousand dollars, four heats-16 miles. She
afterwards beat Fashion four mile heats, who
beat Boston the same distance. Apply to

R. J. HANCOCK & SON., Charlottesville, Va.

FOR SALE.--My Trotting-bred Stallion

GEORGE BURNS, foaled May 14, 1900. Ma-
hogany bay, star in face, left hind foot white,
of good style, easy to handle; will make good
breeder. Write for his breeding.

J. TABB JANNEY, Van Cleaveville, W. Va.

REGISTERED SHORTHORNS.

Our old, established herd of about forty good milking cows is headed by imported SIR WILFRED LAURIER, 144766 (a son of the great English champion Marengo); CEDRIC, 126088 (a grandson of William of Orange, of Marr Farm), and FRANTIS LAD, 210443 (a winner of second prize in senior bull calves at 1903 International Young stock for sale,

P. S. LEWIS & SON,
Point Pleasant, W. Va.

FOR SALE OR TRADE

1 Registered Shorthorn Bull,
5 years old, to prevent inbreeding.
1 Registered Shorthorn Bull,
6 months old.
50 lbs. French White Artichokes,
at 75 cents per bus.
Standard bred Poland-China Pigs, 3 to
4 months old.

J. H. BOELTE & SONS, - News Ferry, Va

ELLERSLIE FARM

Thoroughbred Horses

AND SHORTHORN CATTLE, Pure Southdown Sheep and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.

WM. T. THRASHER, Springwood, Virginia,
BREEDER OF PURE BRED

Short Horn Cattle and Poland-China Hogs.

FOR SALE: 2 yearling bulls, good ones, ready
for service; also some nice Fall Poland-China
hogs of both sexes. Come or write.

COOK'S CREEK HERD

Scotch-Topped Shorthorns

Herd Headed by Governor Tyler, 1885 48.
Young Bulls for sale. Inspection and corre-
spondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

Angora = Goats.

In pairs to suit. Buck and Doe Kids
at \$15 or \$20 per pair. Does in Kid,
\$8 to \$10. Some extra REG. ANGUS
Bull Calves, low down.

J. R. K. BELL, Pulaski City, Va.

ANGORA GOATS are handsome, hardy and
profitable. For large cir-
cular address E. W. COLE & CO., Big Clifty, Ky.

evaporated fruit best, but the common
sun-dried peaches will do.

Seven pounds of peaches, five pounds
of sugar, between two and three quarts
of vinegar. Powder coarsely mace,
cloves and alspice, and add seven tea-
spoons of this mixture and a few pieces
of bruised ginger. Pour over the
peaches and let them stand over night.
Cook until tender, and as soon as cold
it is ready for use.

QUEEN OF PUDDINGS.

One quart of milk heated and poured
over the well-beaten yolks of four
eggs, into which stir one cup of sugar
and a heaping cup of finely crumbled
bread (stale is best); season with nut-
meg and let it get cold. Just before
putting it into the pudding dishes, add
a full cup of seeded raisins; bake
about forty minutes, or until the pud-
ding is well set; then take it out and
spread a layer of some acid jam or
jelly over it, and over this put the
whites of the eggs beaten and sweet-
ened with a half cup of sugar; flavor
with lemon and set it back to brown.
Eat cold with cream or hot with wine
sauce.

CARAVEN.

ONE ASSET HAD BEEN OVER- LOOKED.

H. Gerald Chapin, editor of The
American Lawyer, takes considerable
delight in telling how he was once foiled
by a woman whom he was examin-
ing as a witness in supplementary pro-
ceedings.

"I had been admitted to the bar but
a short time, and was a fair specimen
of the average theory-stuffed, practice-
wanting, law-school graduate. How
joyously were the commands of the
managing clerk obeyed! Here was the
looked-for opportunity to demonstrate
my ability in the noble art of search-
ingly examining a recalcitrant witness.
Of the two I fancy, however, that it
was the lady who was the more self-
possessed when the proceedings opened.
She was a dressmaker, and had
been sued by a dry-goods firm. The
examination dragged its slow length
along, revealing no assets, until finally
came the omnium gatherum query asked
as a finisher.

"Have you any property of any
kind or nature, real or personal, or
any right or interest in property which
you have failed to mention?"

"Perhaps it was my tone she dis-
liked. At all events, her eyes snapped.
"Well, I've got what perhaps you
wouldn't call an interest, but it's
almost as good. It's an expectation.
Must I answer?"

"If you please."

"Well, you see, it's this way. I've
got two sisters, and both of 'em have
married finely. Now, neither of 'em
begins to be as good looking as I am."

"Well, I really don't see why I
shouldn't have the same show."

"Needless to say, no receiver was
appointed to administer this 'asset.'"—
Success.



Products Are Good

Scotch Collies.

Among the famous sires now at
Filston are Lord Tweedmouth, sire
of Dorothy C. and many notable
prize winners; Filston's Galopin,
Filston's Hero and many others,
representing the best collie blood
ever brought to America.

These dogs are at stud, or pup-
pies of this choice stock may be
procured from time to time. Cor-
respondence solicited.

Filston Farm, Glencoe, Md.

150 Jacks, Jennets and Mules.

Best assortment I ever owned. Can
suit you exactly. Write for descrip-
tion and prices. Also
will sell 2 Percheron
Stallions at close fig-
ures.

BAKER'S JACK FARM,
Lawrence, Ind.



Knight & Jetton,

Breeders of and Dealers in
Jacks, Jennets, Stallions.
Durham and Hereford
YEARLINGS.
Send stamp for Catalogue.
Murfreesboro, Tenn.



Jacks, Jennets and Stallions

FOR SALE. FINE JACKS A
SPECIALTY. When writing
state exactly what you want
or come and see our stock.

W. E. KNIGHT & CO.,
Route 5, Nashville, Tenn.



MULES FOR SALE

One pair choice young Mules, coming
4 yrs. old; thoroughly broken. Address

LOUIS DE LACROIX, Oxford, N. C.

— SALE OR EXCHANGE. —

1 Maltese and 1 Spanish Jack, sound and
sure, for good sheep or heavy stallion. Young
stock preferred. W. S. MOTT, Dixondale, Va.

A neat Binder for your back num-
bers can be had for 25 cents. Address
our Business Office.

Angus Cattle For Sale Low.



1 Reg. Bull Calf 12 mos. old, very fine. 1 Reg. Bull calf 7 mos. old, very fine. Angus herd bull 6 mos. old, a very fine animal. Lot of 3 grade bull calves. 1 15-16 grade bull calf. Several nice 2 and 3 grade heifers 1 year old. These grade calves look like thoroughbred Angus, and will please the most fastidious. 1 five year old Shorthorn cow with bull calf at foot, by our Reg. Angus Bull, a fine family milk cow; quality's perfect. A splendid family milk cow 4 years old. Will drop a calf in April next, by our Angus bull. A splendid location for a saw mill. Timber to last 3 years or longer one-half mile from the railroad.

W. M. WATKINS & SONS,
Saxe, Charlotte Co., Va.

ANGUS CATTLE,



THE WORLD'S
BEEF MARKET

"Top Notchers" for 15 years. Good Pedigree. Breeding and individual merit our aim. YOUNG STOCK FOR SALE.

JOHN T. and G. B.
MANLOVE, Hilton
Indiana.

ANGUS BULL CALVES

Sired by the
Champion Bull **BARON IDA**.

These calves are choice individuals.
ENGLISH SETTER PUPS.

Sire and dam prize winners.

WARREN RICE, Winchester, Va.

MONTEBELLO HERD
ABERDEEN-ANGUS CATTLE

FOR SALE—2 Registered Bulls, calved Dec. 17th, 1902, and Aug. 28th, 1903.

Berkshire Pigs,

(Biltmore Strain.)

farrowed May 1903. For terms, apply to

L. H. GRAY, Orange, Va.

— ROSEDALE HERD —

Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as good as good breeding will permit. Inspection of herd and correspondence invited.

ROSEDALE STOCK FARM, Jeffersonson, Va.

CULTIVATING AND WEEDING
FIELD CROPS.

We believe the Keystone Adjustable Weeder, which is advertised in these columns, has a larger beneficial use on growing crops than many very good farmers believe. Its purpose is to destroy weeds which start quickly on the soil's surface, at their first showing, at the same time mellowing and cultivating the soil for the benefit of the crop. Many might fear that destroying the weeds would at the same time destroy the crop. This does not follow. Exactly the opposite is the truth. The crop is deeper rooted than the young weed, and whatever disturbance there is tends to its better "stooling out," resulting in many cases in an increase in product of from 25 per cent. to 40 per cent. This Keystone Weeder has the popular Hallock Fat Tooth, and is manufactured under license. An important feature about the tool is its adjustability. Primarily, it is intended for work in sowed crops, as grains and grasses. As such, it has a width of 7½ feet, but it is only the work of a moment to narrow it down to 30 inches, when it becomes an unsurpassed weeder and cultivator for work between the rows of corn, beans, potatoes, etc. It is manufactured by the Keystone Farm Machine Company, of York, Pa., who will be glad to send descriptive matter and full information to any one writing for it.

SPRAYING PAYS.

Readers of Southern Planter are coming more and more every year to recognize the value of spraying, not only for fruits, but for vegetables, melons, tobacco and other crops. If one has the right solution, any sprayer is better than none at all, but when one considers that the cheapest lasts only a little time, and costs almost as much as the best sprayer, it will be seen that there is no economy in buying sprayers of doubtful quality. One of the most complete lines of sprayers for all purposes is made by Morrill & Morley, of Benton Harbor, Mich., who are advertising elsewhere in this issue. This firm was engaged in the actual growing of fruit before they embarked in the spraying business, so that their goods are eminently practical, and will do all that they claim and that any one will expect. We can recommend the firm and the line to our readers. If interested in this subject, as every farmer ought to be, write to-day for their catalogue, which will be gladly sent you if you mention having seen their ad. in this paper.

Mother—I hope that young man never kisses you by surprise?

Daughter—No, mamma; he only thinks he does.

Be sure you are right—then, instead of sitting down and thinking it over—go ahead!

REGISTERED
IMMUNE HEREFORDS.

Sale of 50 head at AUBURN, ALABAMA.

February 17, 1904.

Under the management and auspices of the Alabama State Experiment Station. The consignment is a pick of four of the best herds in Kentucky. Bulls and Females of ages to suit all. IMMUNE to Southern fever by INOCULATION.

For particulars and illustrated catalogues address GLITNER BROS., Eminence Ky., or Auburn, Ala.

We have a choice lot of cows, bulls and heifers for sale at our Kentucky Farms. Prices are reasonable. Write us before buying elsewhere.

V. P. I.
Farm Bulletin

We are now offering some choice young Bulls of the following breeds:

Shorthorn, Hereford, Aberdeen-Angus.

Write at once for pedigrees and prices.

D. O. NOURSE, Prof. of Agr.
Blacksburg, Va.

Swift Creek Stock and Dairy Farm

Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS
AND HEIFERS.

None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 10 to 12 months old, \$35. Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

T. P. BRASWELL, Prop., Battlersboro, N. C.

— 1 OFFER —

2 Reg. Ayrshire Bulls,

One 10 mos. old, PRICE, \$40.00.
One coming 3 yrs. old, PRICE, \$65.00.

Low considering quality.

Registered and high grade HAMPSHIRE DOWN SHEEP of best breeding. Rams, Ewes and Lambs for sale. Stock and Prices will suit.

J. D. THOMAS, Round Hill Va.
Meadow Brook Stock Farm.

FOR SALE.

3 Aberdeen-Angus Heifers,

Bred from Hero of Bunker Hill, 31462. All three good individuals.

J. TABB JANNEY, Van Cleaveville, W. Va.

ANGUS & HOLSTEIN CATTLE.
Registered and grades, of all ages and sexes, and of champion blood for the beef and milk strains and at moderate prices. Also Nursery stock of all descriptions.

MYER & SON, Bridgeville, Delaware.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

DORSETS AND HEREFORDS.

Some Exceptionally Rare Bargains to Quick Buyers.

My herd bull, bull calves and Dorset bucks. Registered stock.

H. ARMSTRONG, LANTZ MILLS, VA.

Woodvale DORSETS.

Good January 1903 Rams FOR SALE—cheap.

FRANK ELLSWORTH,

R. F. D. No. 4., Charlottesville, Va.

...WOODLAND FARM.

Choice SHEEP,

Beardless Spring Barley,

Choice Alfalfa Seed.

J. E. WING & BROS., Mechanicsburg, O.

Argyres, Berkshires and Oxford-Downs.

Argyres Calves of both sexes, Berkshire Pigs and Boar and 2 Oxford-Down Rams for sale.

MELROSE CASTLE FARM,

Enos H. Hess, Manager, Casanova, Va.

\$1395 NEW MAUSER RIFLES FROM GOVT. ARMORY


These rifles are of the latest design, 100% perfect, through by the Hon. Genl. Automatic action. New, Little used. Weight 18 lbs. barrel. GUARANTEED NEW. Send \$1.00 for info. C.O.D. balance \$10.00 and express. Examination allowed. Delivery in 10 days. Quotations \$2.00 per 100. Francis Hartman, 675 Hwy. N. E., WEST BIRMINGHAM, ALA. THE WORLD.

LICE

Gibson Liquid Lice Killer kills all lice and mites on Poultry, Cattle, Hogs and Horses. Easily applied and guaranteed to kill the lice or money refunded. Gallon can \$1.00. Liberal terms to dealers and agents. Write to-day for prices and circulars.

GIBSON & LAMB, West Alexander, Pa.

The RICHMOND, FREDERICKSBURG

and POTOMAC R. R.

and WASHINGTON SOUTHERN RY

The Link Connecting the

Atlantic Coast Line R. R.,
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Between All Points via Richmond, Va.

Fast Mail, Passenger, Express and Freight Route between Richmond, Washington, Baltimore, Philadelphia, New York, Boston, Pittsburg, Buffalo, and all points North, South, East and West.

W. D. DUKE,

C. W. CULP,

General Manager, Asst. Gen'l Man.

W. P. TAYLOR, Traffic Manager.

EMILY'S CHARGE.

A SERIAL TALE BY MARY WASHINGTON.

CHAPTER VIII.

In order to explain to our readers Dr. Gordon's abrupt departure, we will have to go back and give an account of some episodes in his early life. When in his teens, he had a boyish love affair with his cousin, Lucy Gordon. Their fathers were brothers and were neighbors, the families, of course, intimate, the estates contiguous, and the immemorial custom in Virginia was for cousins to marry. In short, everything seemed to pave the way to the match and point to its desirability. The engagement, formed in their early teens, ran on till they had reached a mature age, and would have been consummated ere now but for reverses that had befallen Ellis' father, of late years, whilst his uncle, who was a shrewder and more successful business-man, had become very prosperous, and thus there had arisen a disparity between fortunes of Lucy and Ellis which, at the outset, had been about equal. It was a matter both of pride and principle with Ellis not to take a bride—even a wealthy one—until he could support her; so it was understood between him and Lucy that they were not to be married till he could support her by his practice, independent of anything she might possess. Both of them were very well satisfied with this arrangement. They did not have that ardent affection for each other that made them feverishly impatient for the time of probation to be over, nor that deep and continual longing for each other's presence that makes separation a trial to those who love. They were fond of each other rather as brother and sister than as lovers. Their betrothal had been entered into when they were very young, and was brought about more by contact and by the furtherance of friends and relatives than by their own deliberate choice. The only perturbation that had ever ruffled the course of their wooing was produced by some conscientious scruples aroused in Lucy's mind about marrying a first cousin, while she was being educated in the convent in Georgetown, a school very popular for young girls in Virginia, even in Protestant families. Like most young girls who go there, Lucy fell very much under Roman Catholic influences—so much so as to make her waver not only in her allegiance to the Protestant Church, but to Ellis—in view of the strong opposition the Catholic Church offers to the marriage of first cousins; but when she returned home, old habit and the memories and associations of her early years reasserted their sway, and she made no move to untie the bond between Ellis and herself.

Though far from being an impassioned lover, he had a tranquil affec-

Life, Accident, Liability and Health Insurance.

54th Annual Statement
(Condensed)**Ætna Life Insurance Co.,**
HARTFORD, CONN.

MORGAN G. BULKELEY, President.

The Leading Insurance Company in New England, and the Largest in the World Writing Life, Accident, Liability and Health Insurance.

Assets, Jan. 1, 1904.....	\$68,155,179.01
Premium receipts in 1903.....	11,733,253.87
Interest receipts in 1903.....	2,825,620.69
Total receipts in 1903.....	14,558,874.56
Payments to Policy holders in 1903.....	6,562,153.05
Legal Reserve on Policies, and all claims.....	60,287,077.10
Special Reserve in addition to Reserve above given.....	2,186,188.00
Life Insurance issued and revived in 1903.....	33,087,131.09
Life Insurance in force Jan. 1, 1904.....	225,765,843.00
Accident Insurance in force Jan. 1, 1904.....	208,617,238.00
Guarantee Fund in excess of Requirements by Company's Standard.....	5,681,913.91
Guarantee Fund in excess of Legal Requirements.....	7,857,944.55

Paid Policy Holders Since Organization,
\$138,946,137.01.**Great Gains in Business During 1903.**

Increase in Assets.....	\$4,661,633.28
Increase in Excess Guarantee Fund.....	181,412.86
Increase in Premium Income.....	1,508,992.94
Increase in Total Income.....	1,742,074.47
Increase in Life Insurance Issued.....	2,597,293.00
Increase in Life Insurance in Force.....	12,002,866.00
Increase in Accident Insurance in Force.....	9,067,034.00

W. H. HARDWICKE, General Agent Life Department, 7 N. 10th St.
J. B. MOORE, Jr., General Agent Accident and Liability, 1103 E. Main St.,
RICHMOND, VA.

"Crop Growing and Crop Feeding."

By PROF. W. F. MASSEY.
383 Pp. Cloth, \$1.00; Paper, 50c.

We offer this splendid work in connection with the SOUTHERN PLANTER at the following prices:

Southern Planter and Cloth Bound Volume, \$1.25.
Southern Planter and Paper Bound Volume, 90c.
Old or new subscriptions.

tion for Lucy, and never felt their betrothal to be a fetter until he came to know Emily. When he first saw the latter, he felt strongly attracted toward her. She and her young sister seemed to form together such a lovely vision of peace, purity and sweet young womanhood. Later, when he met and talked with Emily at the dancing party, he felt so powerfully drawn toward her, so delighted and startled at hearing her express thoughts and sentiments that seemed like the voice of his inner heart, that he began to think it would be better for his honor and peace of mind to keep away from her; and, therefore, on calm reflection, he decided that it would be wiser for him not to call at the cottage, though he had requested permission to do so. When Alice was taken in, however, there could be no question as to the duty—nay, the necessity of his going there. He went, and the results of close attendance and intimacy at the cottage, we have already described. He struggled against his love for Emily as soon as he became clearly conscious of it. Hampered as he was by another tie, it occasioned him terrible inward conflicts. For days and weeks he had an inward tribunal, arraigning and judging himself, and trying to decide what was right. One day, glancing over Tennyson's "Elaire," his eyes fell on the lines:

"His honor, rooted in dishonor stood,
And faith unfaithful, kept him
falsely true."

"That would apply to me," he exclaimed, "if I were to go through the hollow form of making Lucy my wife. I would do a terrible wrong and injustice both to her and myself to marry her, feeling as I now do. I had better tell her the truth, even if it inflict some temporary pain and humiliation, rather than take a false step that would make us both unhappy for life."

The more he thought over the matter, the more he became convinced that this was the right course. He thought it best not to see Emily again while things were in this unsettled state. He had no idea whether she returned his feeling or not, and, of course, would make no effort, as long as he was bound even nominally to Lucy; hence his abrupt departure, without taking leave of Emily.

By a strange coincidence, he was summoned to go to Lucy almost simultaneously with his decision to take the journey. A telegram from Lucy arrived just as he was starting, asking him to come to her at once, as her father was very ill. Arrived at his destination, he found that his uncle, who had been feeble health for some time, had been precipitated into a fatal attack of paralysis by sudden business failure, and Lucy, reduced to poverty and bereaved of her father, threw herself into Ellis' arms, sobbing out,



DR. A. C. DANIELS



Can save you Money, save your Horse,
save your Mule or save your Cow. *عربي*

Home Treatment for Horses and Cattle.

Sick and Lame Horses Made Well. Weak Cows Made Strong. Better Breeders and Milkers.

Book for the asking of your druggist or dealer, or send to

DR. A. C. DANIELS, 172 Milk St., BOSTON, MASS.

Mention the PLANTER.

THE - OAKS - STOCK - FARM.

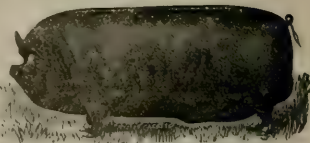
We breed and ship the best strains of

Large ENGLISH BERSHIRE

Send us your order and get the best.

A. W. HARMAN, Jr., Lexington, Va.

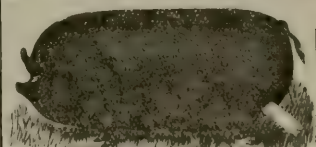
A Large Registered English Berkshire Boar,
1½ years old, extra fine specimen FOR SALE.
Write for price.



HILL TOP STOCK FARM.

Berkshire Hogs and Southdown Sheep

A SPECIALTY



S. Brown Allen, who succeeds H. A. S. Hamilton & Co. in the ownership and management of this celebrated Stock Farm, with increased facilities, will make a specialty of breeding Berkshire Hogs and Southdown Sheep, without regard to cost, from the purest and most royal strains of imported blood.

My BERSHIRE PIGS

For this Spring delivery will weigh 100 pounds at 12 weeks of age, and for INDIVIDUAL MERIT cannot be excelled in the United States. They will make show hogs against any and all competitors and are being engaged every day. The last of my Fall and winter pigs have been sold, and orders will only be taken for Spring delivery. S. BROWN ALLEN, Staunton, Virginia, (Successor to H. A. S. HAMILTON & Co.)



BERKSHIRES.

SEE WHAT MY CUSTOMERS SAY:

B. P. Van Horn, Toyalo, Texas, just a little ways from old Mexico, says: "I have already made cost of my pigs in outside service of boar."

This was just a few weeks after shipment.

W. W. Cornelius, of Blue Springs, Miss., bought four in December, writes: "Am delighted; can certainly give you a good name in Mississippi."

W. P. Hubert, Crawfordsville, Ga.: "Pigs arrived safely, and I am well pleased."

R. L. Kirkwood, Bennettsville, S. C., writes: "Delighted."

T. M. Arrasmith, Greensboro, N. C., says he got much better value than he expected.

R. Broughton, Oxford, N. C., is delighted.

P. H. Rudd, Mariner's Harbor, Staten Island, N. Y., has bought a whole herd from me, and is making money as a breeder now. These are just a few scattering letters received in last few days out of thousands that I have received. North Carolina alone can show at least a thousand of my pigs, and every purchaser happy. I am one of the oldest DIRECT importers in the United States, and own one of the finest and largest herds. If you want to try a novice in the business, I am not the man.

THOS. S. WHITE, Fassifern Stock Farm, Lexington, Va.

"You are all that is left me in the world."

It would be difficult to imagine a more cruel and difficult position than the one in which Ellis Gordon now found himself, nor a greater complication of conflicting duties. The situation in which he found Lucy seemed to deprive him of the power of acting in freedom and of taking the step which he was convinced would save them both from life-long unhappiness. But when the orphan girl, the betrothed of his early years, threw herself into his arms, exclaiming, "You are all that is left me in the world," his fate seemed sealed. It was impossible to say now to this clinging, trusting, desolate young girl what he had intended saying, if he had found her, as he had expected, in the enjoyment of a father's love and protection and of abundant property.

For the first few days after his arrival all were taken up with performing the last sad offices for the departed, so Dr. Gordon did not realize as fully, as he did later, the cruel dilemma in which he was placed; but when the household had settled down into quiet again, he sank into a sort of gloomy apathy. He was no longer disturbed by perplexity, for his fate seemed sealed. He was so hedged in there was no alternative. He could not release himself from Lucy in her affliction and poverty. One thing was clear, however. If he was to marry her, he must never again look on Emily; so he set about making arrangements to go to a new place. He had a restless longing to go off somewhere to a great distance and be alone. He thought he might grow calmer, after awhile, when away from agitating influences, and might become better prepared to extend to Lucy that brotherly kindness and protection which were all it was in his power to give. He felt the necessity of quickly getting to work, lest he should stagnate in his unhappiness. Listless and moody, he felt that the spring of hope and joy had gone out of him; still he felt eager to resume his work, partly from the restlessness of unhappiness and partly from his native energy and love of his profession, which could not be quenched by any personal pain or disappointment.

Lucy was dimly conscious that something was wrong, but she was too much grieved by her father's death to notice this as much as she would have done under ordinary circumstances. Besides, as Ellis had never been an ardent or demonstrative lover, it did not seem strange he should not be so now. He was, however, always considerate of her, gentle and gravely kind; and, more than this, it was impossible for her to be.

He wrote to a friend, who had gone a few years before to the West, asking if there was any opening for him at the place where his friend had settled.

Selling Out at Almost Butchers' Prices

50 HEAD OF

POLAND-CHINAS

of the best strain, out of son of PROUD PERFECTION, who sold at \$7,000.00.

Boars, ready for service - \$8.00.

Gilts, 5 mos. and over - - - \$8.00.

Greatest bargain ever offered, worth three times the price asked. Entire herd to be sold immediately—none reserved. Owner compelled to dispose of herd owing to other business interests elsewhere. Will sell single animals, or in lots to suit purchaser. Send money order or draft with order. Orders will be filled in the order in which they are received.

Address **BULLFIELD FARMS, Doswell, Va.**

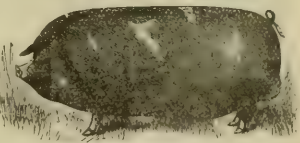
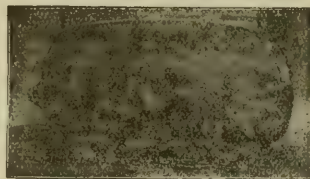
POLAND-CHINAS.

I have a limited number of pigs by my fine boars Gray's Big Chief, 57077; and Victor G, 57075, and can furnish pairs not akin or related to those previously purchased. Young boars and sows of all ages. Send to headquarters and get the best from the oldest and largest herd of Poland-Chinas in this State at one-half Western prices. Address **J. B. GRAY, Fredericksburg, Va.**

Registered POLAND-CHINAS.

Pigs bred from some of the best strains in America. **The Kind That Grow Large.** Fine individuals.

Black Minorcas & B. P. Rock Chickens. Prices reasonable. Write for further particulars. **W. M. JONES Crofton, Va.**



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Receiving a fairly encouraging reply, he hastened to resign his former position and start for the West. When he left Lucy, it was with the understanding that they were to be married a year hence, and meantime she was to remain in charge of a widowed aunt in Georgetown—a relative to whom Lucy was much attached.

FERTILIZER CHEMICALS.

The prices quoted below are those at which the goods can be purchased in lots of one ton and over, in original packages, delivered f. o. b. cars at New York city, and are for cash.

In all cases carload lots of any one of the materials can be purchased for less money, and, if possible, farmers should combine and order in not less than carload lots.

AMMONIATES.

Per ton.

<i>Nitrate of Soda</i> —Packed in bags weighing about 200 lbs., and containing 15 to 16 per cent. nitrogen	\$45 00
<i>Dried Blood</i> —Packed in bags weighing about 200 lbs. and analyzing about 10 per cent. nitrogen	40 00
<i>Tankage</i> —Containing about 7 to 8 per cent. nitrogen and 20 to 25 per cent. phosphoric acid.	35 00
<i>Sulphate of Ammonia</i> —Containing about 20 per cent. nitrogen.	65 00

POTASHES.

<i>Nitrate of Potash</i> —This material contains both potash and nitrogen in a highly concentrated form, analyzing 45 to 46 per cent. actual potash and 13 to 14 per cent. nitrogen	70 00
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<i>Kainit</i> —Containing 11 to 12 per cent. actual potash	12 00

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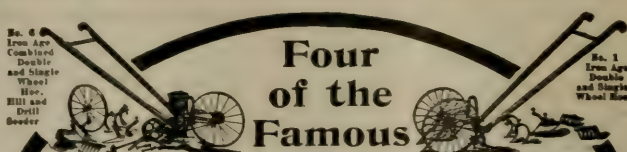
<i>Peruvian Guano</i> —A natural manure, free from all acid treatment, and containing about 4 per cent. ammonia, 4 per cent. actual potash, and 23 per cent. total phosphoric acid, in 200 lb. bags	30 00
<i>Acid Phosphate</i> —Containing 14 per cent. avall. phosphoric acid, and packed in 200 lb. bags.	12 00
<i>Bone Meal</i> —Containing about 3 per cent. nitrogen and 50 per cent. bone phosphate of lime.	25 00

There was a young heiress called Rooker.

And the lawyer named Luke tried to "hook" her;

But the heiress was shrewd,
Though her question was rude—
"Do you look at my looks, Luke, or lucre?"

No. 6
Iron Age
Combined
Double
and Single
Wheel
Hoe,
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Four
of the
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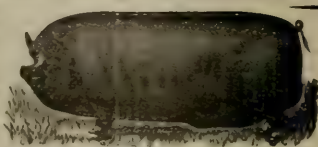
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We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING.

Proprietor of the Bridle Creek Stock Farm, Warrenton, N. C.



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BILTMORE FARMS**Annual Brood Sow Sale,****FEBRUARY 9, 1904.****70 - Head of Imported Large English Berkshires - 70.**

Our 1903 Importation will be offered at unreserved auction on the Farms, Col. R. R. Bailey, Auctioneer; sale held under cover.

65 Selected Brood Sows all guaranteed safe in pig to the greatest English and American boars.

5 Selected Boars, including champion boar, English Royal.

All either prize winners themselves or bred by prize winners.

This offering has been selected without reserve; without limit as to price, and is from the herds of the leading English breeders, such as Edney Hayter, R. W. Hudson, His Royal Highness, Prince Christian, and C. C. Smith, Philo L. Mills, J. A. Fricker, etc., and will be sold absolutely without any reserve price, if only one bid is made.

INDIVIDUAL MERIT. Visiting breeders who have recently inspected the offering unite in the verdict that no such collection of Berkshire Brood sows has ever been gathered together at any one place, or can be found in any other breeding establishment. They have even more size and uniformity of type than our last importation, good as that was, and in addition the greatest possible care has been taken to exclude all that did not indicate the best of constitution and feet; early maturity, extra finish and style combined with good heads, backs and hams. In short, they are the kind that cannot be found every day, and that we confidently expect will be approved of in the sale ring by the expert judge and will well repay both our efforts and the investment of time and money for the breeder to secure.

BLOOD LINES. Only the best of the tested reproducing English families are represented. These we have proven here for many years, and have given great results in the hands of other American breeders, and they are families which are producing the winners for many years at the leading English Shows. They are not the results of any experiments which we do not wish to try here or induce our patrons to try. Among the prominent families are those of The Huntress, Loyal Berks, Handley Cross, First Catch F., through Major Favorite, Swansea, Blenheim, Rubicel, through Queen of Hearts, First Rank F., Highclere Topper and His Majesty. Ten great boars, which include the Champion at the English Royal, also the Champion at the Pan-American, and many other prize winners will be used on these sows, selected to nick to produce the best litters that many years' experience with these blood lines indicate.

CATALOGUE will be ready for mailing early in January. **MAIL BIDS** will be carefully and conscientiously treated by the Farms; or, if selection of an outside expert is wished, write Mr. Geo. W. Jessup, Rockville, Ind., who has kindly consented to act in this capacity.

SPECIAL RAILROAD RATES of one and one-third fares for the round trip can be secured from all points north of the Ohio and west of the Mississippi rivers by calling for Winter Tourist's Tickets to Asheville (1½ miles from the Farms). For further particulars address

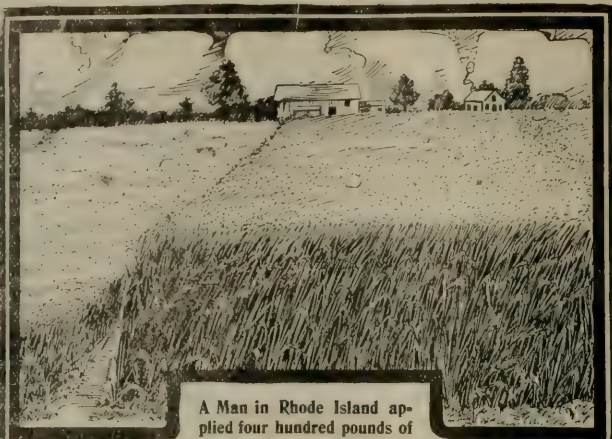
BILTMORE FARMS, Biltmore, N. C.

THE BILTMORE SALE.

The 7,000 edition of the Biltmore Farms Catalogue of their fourth annual sale of large imported English Berkshire brood sows (all guaranteed safe in pig to one of their great boars) has been mailed out to all breeders, and a few reserved for those who will send a postal card for one.

The boars they have been bred to include Loyal Lee II., of Biltmore, a Loyal Berks-Longfellow boar, champion of America and gold medal boar of Pan-American; Danesfield Warrior, first and champion English Royal Show, 1902, and many others, and he is included in the sale; The Duke (imported), a Highclere-Parish-Council-Minting boar; Danesfield Hunter and Huntsman, both imported and in the sale, and of the richest breeding, being by a son of Manor Favorite and out of Danesfield Huntress (in the sale also), a winner of first and reserve for the champion at the Royal at Somerset and Tunbridge Wells; first and champion at Central Buckinghamshire, and second at Peterborough and Oxford. She is also the dam of Danesfield Governess and Mistress, two great winners; and, finally, she is out of the Huntress, the head of the remarkable family. To mention the choice sows in the offering, that for quality and breeding cannot be duplicated as an offering of exceptional high quality, would be to name nearly every one. They are by boars that are household words with the best English breeder, Faithful Commons, that best son of Loyal Berks Commons, a Highclere boar, also in the sale; a Danesfield Loyal, by Loyal Berks, and out of a Sallie Sow, Lisle Grand Duke, the most prominent winner of 1903, beating the Royal Champion (who sold for \$550.00) at the Royal Comtes; and, finally, the Highclere Topper boar, Handley Cross, sire of the winning pen of sows at the Royal, 1903, are a few.

We must not close without calling attention to these, also included in the sale: Their dam is equally well bred, being Stratton Polly B, making the three sows Windsor Royal Winner I., II., and III., full sister to the sow winning first and reserve for the champion at the Royal of 1903. Another full page could be filled easily with the winnings of other full sisters and near relations. Purchasers at former sales who remember the individuality of the produce of Queen of Hearts, Rubiecl Sow, will mark with interest that four of her daughters, by Lisle Grand Duke are included in the offering. They are showing great development, and many tempting offers at private sale have been refused them, and a great future is assured for them in the right hands, either as show animals or foundation stock, for, in common with all the offering, they are from tried and producing strains.



A Man in Rhode Island applied four hundred pounds of

Nitrate of Soda

(The Standard Ammoniate)

to an acre of Timothy. From this acre he made 4,800 pounds barn-cured hay more than from an acre next to it, which had no nitrate. *That pays.*

This illustration is from a photograph of the two fields.

I want a farmer in every county in the United States to make a similar trial on a measured plot of meadow. I will furnish the Nitrate of Soda

ABSOLUTELY FREE

if the farmer will use it as I direct and report actual results of the trial to me.

My object is simply to collect and publish information about the value of Nitrate of Soda on hay production in every locality.

Send name and complete address on Post Card for instructions, conditions and Bulletins on Grass and other Crops.

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BERKSHIRE PIGS

From the herd where they grow to 200 pounds at 6 months. Trio, \$25.

A few JERSEY BULL CALVES from cows making 360 to 400 lbs. butter per year. If you wish to improve your herds, better buy your stock here.

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The best dehorner, the most humane and easiest to use is the **Keystone Dehorning Knife**. Hornless steers give more milk. Hornless steers make better beef. Cuts on four sides at once, without crushing or bruising. Highest award at world's fair. Orders with this bill filled from the factory. Send for circulars. M. T. PHILLIPS, Box 45, POMEROY, PA.

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REPORTS.

U. S. Department of Agriculture, Washington, D. C. Annual Reports Department of Agriculture 1903. Report of the Secretary. Departmental. Ask your Senator or Congressman to send you a copy of this report. It is full of interesting information.

Bureau of Soils. Field Operations 1902. Fourth report with maps of sections investigated. The Albemarle area in Virginia and the Hickory and Mount Mitchell areas in North Carolina are included in this report.

Report No. 75 Indian Corn in Argentina—Production and export.

Office of Experiment Stations. Experiment Station Record, Vol. XV, No. 5.

Bureau of Statistics. Wages of farm labor in the U. S. 1866-1902. Farmers' Bulletin No. 183. Meat on the Farm. Butchering, Curing, Keeping.

Farmers' Bulletin No. 184. Marketing Live Stock.

Crop Reporter, December, 1903. Supplement and January, 1904.

Columbus Horticultural Society, Columbus, O. Journal of the Society, December, 1903.

Virginia Experiment Station, Blacksburg, Va., Bulletin 141. Orchard Studies XIV. The Lime Sulphur Wash.

Virginia Weather Service, Richmond, Va. Report for December.

Impl. Department Agriculture for the West Indies, Barbadoes, W. I. Agricultural News, January 2, 1903.

PAMPHLETS, BOOKS, ETC.

Proceedings of the 27th Annual Meeting of the Georgia State Horticultural Society, August, 1903. Hugh N. Starnes, Secretary, Experiment, Ga.

American Breeders' Association. Proceedings of first annual meeting St. Louis, Mo., December 20, 1903. This is a new organization of animal and plant breeders of which the Hon. James Wilson, Secretary of Agriculture, is president and W. M. Hays, of St. Anthony Park, Minn., is Secretary of the Council. The object of the Association is stated by the constitution to be "To study the laws of breeding and to promote the improvement of plants and animals by the development of expert methods of breeding."

Union Stock Yard and Transit Company, of Chicago, 38th annual Live Stock Report for 1903.

An Unappreciated Source of Typhoid Infection. By P. B. Barringer, M. D., of Charlottesville, Va.

CATALOGUES.

The Bateman Manufacturing Company, Grenloch, N. J., makers of the celebrated Iron Age Farm and



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HE HOLDS THE FOLLOWING WORLD RECORDS:

Mile Record,	1:56 1/4	Half-Mile Record,	0:56
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DAN PATCH HOLDS MORE WORLD RECORDS THAN ANY HORSE THAT HAS EVER LIVED.

IN TWO YEARS DAN PATCH HAS PACED TEN MILES FROM 2:00 FLAT TO 1:56 1/4.

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Young stock registered in their respective Herd books, for sale. The SHORT HORNS are bred and owned by a neighbor, and are in our hands for sale. A number of young BERKSHIRE SOWS due early in the year. BARRED FLY-MOUTH ROCKS, S. C. BROWN LEGHORNS, a few BRONZE TURKEYS, TOULOUSE GESE and PEKIN DUCKS. All of above ready for delivery.

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Garden Implements. These implements have been so long in use that their special fitness to do the work intended is recognized everywhere. Each year the company introduces some new feature into some one or more tools and their long experience guarantees that this meets a needed want. The catalogue is a very full and complete one and will be found useful to every trucker and farmer. The catalogue will be sent free on application. Mention Southern Planter.

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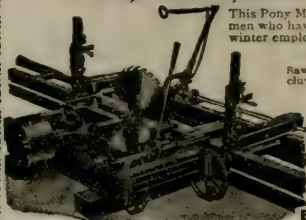
J. W. Jones & Son, Allen, Md., Strawberry plants. A well known Eastern grower of good plants.

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Fourth Annual Berkshire Brood Sow Sale. Biltmore Farms, Biltmore, N. C. 64 sows and 6 boars, the 1903 importation of prize winning large English Berkshires. The sale takes place on the 9th February, 1904. All who want some of the best blood in the world should attend this sale. All will be sold without reserve. The name "Biltmore" is a guarantee that only the best will be offered.

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CATTLE of the Netherland, De Kolk, Clothilde, Pietertje and Artis families. Heavy milkers and rich in butter fat. Stock of all ages for sale.

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SPECIAL BARGAINS IN HOLSTEIN-FRIESIAN.

From a few months to 1 year old, from dams that are large producers, and with strong, official backing on both sides. The sire is half the herd; it is important that you get the right one. We have that kind, and our prices are no higher than others are asking.

LARGE ENGLISH BERKSHIRES, by such sires as Manor Faithful Imp., Esau Princess of Filston, by Esau Imp., Fancy Duke, a double G. son of Loyal Berks. Address

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RATEKINS' SEED HOUSE, Shenandoah, Iowa.

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Products Are Good

their herds with the finest blood to be procured.

IT has recently been decided to spare from the Filston herd of Jersey cattle a few fine young bulls not immediately needed in the herd. Three of this group were imported from the Island of Jersey, the rest are home bred from the most celebrated strains of Island stock. This is an unusual opportunity for breeders of Jerseys to head The individuals for sale are as follows:

NOBLE NAME, 61427, A. J. C. C.

By Nobleman, winner of First over Jersey in '98 and Reserve over Jersey in 1900, out of Golden Phenomenon, another noted Island winner. Noble Name has 25 per cent Golden Lad blood by each parent. Bred by A. J. Arthur, St. Ouen. Dropped March 27, 1901. Now in his third year, and at the beginning of his usefulness.

GOLDEN FERN'S FOX, 62458, A. J. C. C.

Another grand young imported bull, a son of Flying Fox, sold to Thomas W. Lawson in 1902 for \$7,500, and a grandson of Sultana Rosette, one of the most famous cows ever produced on the Island. Bred by Philip Le Mournat, St. Saviour. Dropped January 11, 1901.

GOLDEN PETER, 57426, A. J. C. C.

A bull of splendid breeding and of proved quality as a sire. His pedigree traces twice to Golden Lad, and twice to Wolsley. Bred by A. Le Gallais, St. Brélades. Dropped October 5, 1899.

*Write for full information concerning any of the above.
Pedigrees with photographs will be forwarded on application.*

HEIFER CALVES.

It has not hitherto been possible to secure heifer calves of Filston breeding, as it has been the policy of the management to reserve all heifers for the home herd. It has now been decided to spare a limited number from each year's increase. As this number is small, possible purchasers should inquire at once as to breeding, prices, etc. Address

FILSTON FARM, GLENCOE, MARYLAND.

CEDARVALE GOLDEN HAMLEY, 63988, A. J. C. C.

A son of Golden Hamley, out of Mon Plaisir's Gold Beauty. His pedigree traces five times to Golden Lad and includes many celebrated Island Winners. Dropped December 3, 1901.

ST. HELIER'S GOLDEN GRAND.

A son of Golden Grand and a grandson of Golden Lad. A beautiful young bull of great promise. Dropped May 22, 1902.

BULL CALVES.

In addition to the above there are four young bull calves: one by Flying Fox, one by Shy Fox, one by Fox's Foxhall and one by Noble Name, young animals of the choicest breeding and the most striking individual merit.

GEO. A. SWARTWOUT, *Manager.*

Walter A. Wood Mowing and Reaping Machine Company, Hoosick Falls, N. Y. Catalogue giving full information as to the "New Century" binder sold in this country for the first time this year. Send for this catalogue before buying a machine. This machine has given great satisfaction abroad where thousands were used last year.

The International Harvester Company of America, Chicago, Ill., makers of the McCormick, Champion, Deering and Milwaukee Harvesting Machines. This company sends us finely illustrated catalogues of their different machines. All who contemplate buying a mower, harvester, or binder should send for these catalogues and compare the merits and points of the different makes before buying.

A roll of bills stopped a bullet which struck a Chicago man in the breast, thus saving his life. Yet there are reckless people who will go right ahead day after day without a roll of bills on their persons.

SUNNY HOME HERD OF ABERDEEN-ANGUS CATTLE.

BARON ROSEBOY 57666 by the world famous
GAY BLACKBIRD heads the herd.

Females by such noted sires as Gay Blackbird, 14443, (sire of the highest priced American bred Angus bull), Ermon 18171, (by the champion sire of females Royal Eric), Eulalies Eric 15568, (2nd prize yearling bull at World's Columbian), Beau Bill 13637 (champion of the West for two years), Baron Ida 20184 (champion at N. Y. State Fair 1898), Baronet of Advia 1226 (by the "Judge" champion of the world).

Families represented in the herd are Coquette, Queen Mother, Nosegay, Westertown Rose, Old Rose of Advia, Violet, etc. We claim for our herd as good breeding as any herd in America. The individual animals in the herd have been selected with the one aim "quality" in view. Come and see, or write your order and let us guarantee a first-class animal.

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A. L. FRENCH, R. F. D. 2, Byrdville, Va.



ABERDEEN ANGUS BULLS

FOR SALE.

"Every Bull a Show Bull."

The choicest lot of young bulls in Southwest Virginia, all out of prize winning families at low prices. Do you want a bargain? If so, come and see us, or Address W. P. ALLEN, Prop. of Glen Allen Stock Farm, WALNUT HILL, VA.

MAGAZINES.

In the February number The Century makes a new experiment in color printing, giving two examples of copies by the late J. Wells Champney of famous pastels of the French school,—one Madame Le Brun's portrait of herself and daughter, the other Nattier's portrait of the Princess Louise. Two other color pictures are by Maxfield Parrish of "Roman Villas" in the group of articles by Edith Wharton now running in The Century. One of the subjects is the famous Villa Medici, with the dome of St. Peter's in the distance.

What may be called the "battle of the naturalists" is renewed by a paper, the first of a group, by John Burroughs on "Current Misconceptions in Natural History," which includes an unpublished letter on the subject by President Roosevelt. Ernest Thompson Seton continues his short sketches under the name of "Fable and Wood-myth" John La Farge contributes a paper with his own illustrations entitled "A Fiji Festival" which includes the Story of the War of the Fish Hook as he heard it related during his visit to the Fiji Islands. There is a suggestive article of practical use by Dr. Roger S. Tracy on "How to Live Long," a narrative "In the Alps on a Motor-Bicycle," by Joseph Pennell, with pictures by the author, a paper on "Bric-a-brac Auctions in New York," by Albert Bigelow Paine, illustrated by Orson Lowell.

The fiction of the number includes the fourth part of Mrs. Goodwin's "Four Roads to Paradise," the second part of Mr. Jack London's novel, "The Sea-Wolf," in which the hero shows something of the strenuous life of an Alaskan sealer, and other shorter stories: "The Suicide: A Comedy" by Anne Douglas Sedgwick, author of "The Confounding of Camelia," etc.; "Mrs. M'Lerie's Stuffed Birds" by J. J. Bell, author of "Wee MacGregor"; "A Victim of Cleanliness" by George Schock; "The Absent Guest" by Roy Rolfe Gilson, these being illustrated respectively by Metcalf, Williams, Steele and Miss Stilwell. Editorial articles deal with "Tolerance in the South," "A Hero, and Certain Heroines," (Dr. Howe, Laura Bridgman, and Hellen Keller), "We Americans and Other Animals," apropos of the interest in natural history, and "International Arbitration," which is pronounced "better than battleships."

The February St. Nicholas is rich in pictures of quaint little men and women of long ago, two articles, "The Baby's Cap" and "The Story of the Glove," as well as the timely story of "A Pointed Valentine," offering opportunity for some unusual illustrations. N. Hudson Moore's "The Baby's Cap" goes as far back as 215 B. C. to the dress of women and children, and the funny laws governing it, and has pictures of a Dutch baby and its nurse, from a portrait by Franz Hals; of a

ROSEMONT HEREFORDS.

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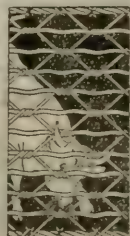
Lars, Jr., is by Lars of Western fame and his dam is Judy out of a Sir Richard 2nd cow. This makes a great combination of the Grove 3d, Lord Wilton, Anxiety, Peerless Wilton and Sir Richard 2nd strains. No better breeding in the world today, FOR SALE—Yearling bulls by above sires. WANTED—Reg. Hereford heifers, 18 to 24 months old, **not bred**; will exchange bulls for heifers of equal quality.

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Take a piece of No. 12 wire and coil it firmly around an inch rod or iron, as shown in figures 1 or 2. Try to pull the coil out of it. You may think you have done so, but upon releasing it, it will assume the shape shown in figure 3. Then look along the wire as you would a gun barrel; it will appear as shown in figure 4—has the appearance of a tube.

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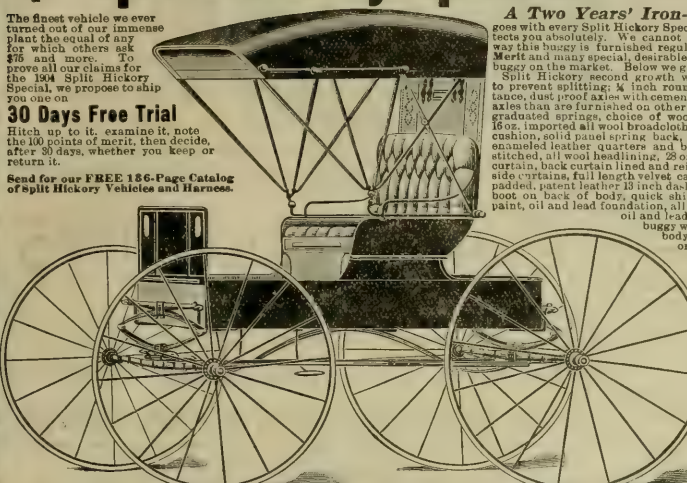
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child with its parrot, from a portrait by Mierevelt; of the little son and daughter of James II. of England, the original painting by Largilliere being in the National Portrait Gallery, London, and of Charles and Marie-Ade-laide of France, by Drouais. Mary Dawson's "The Story of the Glove" is full of romance for the girls and of adventure for the boys; and it, too, is attractively illustrated, "His First Gloves" showing a mite of royalty proudly putting on his odd hand-gear. V. K. Frye's "A Pointed Valentine" is a pretty story of life in our colonies early in the last century, and shows pictures of the little Puritan maidens.

Temple Bailey's "The Judge and the Cur" is a charming story of two dogs, a boy, and a judge. Very interesting, but of quite another tone, is P. W. Humphreys' "The Animal Ship," which tells of Jefferson Davis Cleveland McKinley O'Toole and his skill with the fierce oxles of the forest. The pictures will please all young readers. There is a story also of "Alligator Hunting," written by Frank R. Stockton. B. L. Farjeon's "A Comedy in Wax" grows in thrills. George Huntington's "Jack Longshort" is a tale of a tall boy who shrunk into a pigmy. There are two anecdotes of General

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HAWKEYE GRUB AND STUMP MACHINE

Works on either Standing Timber or Stumps. Pulls an Ordinary Grub in 1 1/2 Minutes. Makes a Clean Sweep of Two Acres at a Sitting. A man, boy and a horse can operate it. No heavy chains or rods to handle. You can not longer afford to pay taxes on unproductive timber land. Illustrated catalogue free, giving prices, terms. MILENBERG CO., 884 5th St., Monmouth, Ill. Address Mile Bros. for CATALOGUE and testimonials. Also full information regarding our 1. X. L. GRUBBER, 2. HORSE GRUB & STUMP MACHINE, 3. 2-HORSE HAWKEYE and other appliances for clearing timber land. •

Washington, with two interesting pictures of the Father of His Country. The second installment of H. Irving Hancock's "Japanese Athletics for Boys" will delight the lads; and Katharine Louise Smith tells of "Our Northern Neighbors' Winter Sports." Clara Marie Platt's "After You Were Asleep" will please younger readers; and Boris Glavins' "Simple Science for Simple Simons" will furnish entertainment for an evening or a rainy Saturday.

Aima Martin Esterbrook's novel in the February number of Lippincott's Magazine more than confirms the belief in her ability to write a good long story. Short fiction from her pen has appeared in many magazines and won much deserved commendation. "Cousin Patricia," her present novel, is a tale of modern life. It entertains, preeminently, from beginning to end. Invention is clever throughout, and the climax shows a blending of strength and charm in the writing which is highly satisfying.

Arthur Symons' name is arrestive in the list of short stories. His contribution, called "Peter Waydelin's Experiment," shines with the human element as portrayed through a man who loved art "for art's sake."

The author of "That Mainwaring Affair," A. Maynard Barbour, writes a tale of love and a gold-mine entitled "A Controlling Interest." Francis Howard Williams is the author of a lovely idyl of a golden wedding called "A Little Child Shall Lead Them." "Yvonne of the Folies Bergere," by Prince Vladimir Vaniatsky, tells of a model husband whose sons make a discovery about their father—by no means to his credit—which they are quick to use to their own advantage. An unusual story, called "The Fatal Chamber," is by Clinton Dangerfield.

A country-bred girl with a love for beauty decorates her sanctum in accordance with her advanced views. She has three suitors, and as each one puts the question she leads him to this room. Two of them fall down lamentably and the one who stands her test is the one she supposed would flee from a girl who loved nymphs. Ella Middleton Tybout excels in darky sketches, but not to the exclusion of other veins in literature. "The Voice of the Harp" proves this. Temptation comes to a pretty "Little Sister of the Poor" to taste "the fleshpots of Egypt," and the way looks easy and pleasant. In the lovely harp Intermezzo of Cavalleria the little maid hears the voice of conscience before taking the irrevocable step. "Dear-



Angora Bucks.

I have 6 Angora Bucks left which I wish to sell to avoid inbreeding; if ordered in the next 20 days, will sell for \$15 and \$17 f. o. b. Rock Castle. They were sired by the famous BAILEY BUCK (10213). The mohair is now 7 to 9 inches long and will sell for \$1 per pound in May.

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CISMONT STOCK FARM offers well developed young Dorsets of the best blood of England and America.

Prices Reasonable.

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Breeding DORSETS our business for 12 years. We can now offer Dorsets of high quality. Our ewes lamb in the fall. We have fall lambs now ready. Last season these lambs weighed 135 pounds in June. Allow us to insist that you buy only GOOD SHEEP when you buy Dorsets. Dorset sheep have a special place in Virginia. No other breed can take their place in the early lamb business. Write us for facts to prove this. We ship our sheep on approval.

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Pigs from 4 to 6 months old. Boars ready for service, and young sows with pigs. Tamworth pigs 8 wks. old \$5. Prices Reasonable. Apply to

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THE OAKS

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2 SHORTHORN BULLS,

Rising 1 yr. old; a solid red with white points and a rich red roan. Eligible to registry. Also a pair of MORGAN COLTS, 13 hands, 2 inches high.

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est," by Harriet Boyer, is a well-told story of young love which stands the strain of time, and foreign travel, and disguise. Elliott Flower can be very funny, and in "The Man Who Never Lived" he surpasses himself in amusing conceit.

The February Review of Reviews is another notable triumph in monthly journalism. Almost every topic treated in this number is directly related to the news of the month. The far Eastern crisis and its bearings on American trade interests are editorially discussed in the department devoted to "The Progress of the World;"

"Korea as the Prize of War" is the subject of an illustrated article of great value by the Hon. J. Sloat Fassett; "The Railways of China" are described by Dr. Arthur J. Brown; Governor Taft's administration in the Philippines, just closed, is reviewed by Frederick W. Nash; Entomologist Howard, of the United States Department of Agriculture, writes on the Mexican cotton-boll weevil, which recently caused an extra session of the Louisiana Legislature, as well as a special appropriation of \$250,000 by Congress; Mr. W. T. Stead sketches the personalities of the three commissioners who have been intrusted by the government with the practical reconstruction of the British army system; Mr. John S. Wise contributes sympathetic character sketches of the two great Confederate chieftains who died early in January,—Generals Gordon and Longstreet; the recent New Orleans meetings of the American Historical, Economic and Political Science Associations are described; the Panama situation and Wall Street's relation to Presidential politics are treated by the editor; and in the Review's series of illustrated papers on American industrial development Mr. Philip Eastman contributes an interesting account of "Windmill Irrigation in Kansas." Many other timely topics are covered by the cartoon department and by the "Leading Articles of the Month," "Periodicals Reviewed," "New Books," etc.

T. W. WOOD & SONS CATALOGUE.

We are in receipt of the seed and plant catalogue of T. W. Wood & Sons, of Richmond, Va. This is a greatly enlarged and improved edition of the catalogue of this well known seed firm. It is replete with the fullest information on the growth and culture of every kind of farm and garden seeds and will be found a constant source of information on the production of all kinds of crops. In addition to seeds of all kinds the firm supplies plants of the staple crops grown for the market which plants are raised by Messrs. Wood & Sons on their farms and can therefore be relied on as true to name and variety. Send for the catalogue before ordering your seeds.

**Made for the Man
Who Wants the
Best.**



**The Great Western
Manure Spreader**

spreads all kinds of manure, fresh, well rotted, fine, coarse, hard, muck, full of straw, full of corn stalks, etc.

Will also spread compost, lime, land plaster, salt, wood ashes, cotton seed and hulls, and in every case do it quicker, better and more evenly than it can be done by hand. Spreads as much manure in one day as twelve men can load and spread by hand and the job is much better when done. Spread the largest load a team can haul in 2 to 4 minutes. It takes the same amount of manure for three times as far and at the same time produce better results.

REGULATED—It can spread much or little, as in motion. Plus feet can always be ready to load. No turning it on thick on poor spots—30 to 50 loads per acre. **ENDLESS APRON**—Always ready to load. No turning it on thick on poor spots—30 to 50 loads per acre. **COMBINED HOOD AND END GATE**—Keeps manure away from heater while loading and acts as hood in spreading. Can haul all things, rocks, stones, etc. Front wheels cut under, and machine can be turned into its own length. Made in two styles and four sizes. Capacity 50 to 70 bushels. It saves time, labor and money and will double the crops. Makes all manure so the soil can use it so it is immediately available to the soil. **LARGE CATALOGUE**—10 by 13 inches, with 8 large cuts shows the spreader perfectly and describes it fully. Tells also how to apply manure to secure best results. Mailed free. **SMITH MANURE SPREADER CO., 15 & 18 S. CLINTON ST., CHICAGO, ILL.**

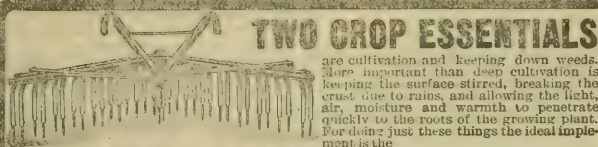
Planet Jr. Companion Tools

No. 3. Planet Jr. Hill and Drill Seeder shown below in the right holds its position as the tool for perfect hand seeding. Converted in an instant from drill to hill planter and back again. Plants in hills 4, 6, 8, 12 or 24 inches apart. A convenient cut-off prevents seed waste in stopping, no hills missed in starting. A steel marker rod lines out rows to 20 inches apart, and it opens the furrow, drops the seed, covers different depths, and rolls down. Operator drills or plants in hills all garden seeds with great accuracy, aided by an excellent graduated index at top of handle.

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Planet Jr. 1904 Catalogue shows forty different machines, including Seeders, Single and Double Wheel Hoes, Hand, One and Two Horse Cultivators, Horse Hoes, Best Sugar Cane Cultivators, etc. Over 100 illustrations, including 10 beautiful full-tones of home and foreign farm and garden scenes. Mailed free to all.

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KEYSTONE Adjustable Weeder and Shallow Cultivator

are cultivation and keeping down weeds. More important than deep cultivation is keeping the surface stirred, breaking the crust due to rains, and allowing the light, air, moisture and warmth to penetrate quickly to the roots of the growing plant. For doing just these things the ideal implement is the

Both for the asking.
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THE YORK Improved Weeder

The flexibility of the teeth is the important thing in a weeder. The York Improved Weeder has teeth of square springs set with round points. The set has great flexibility, and the narrow in the body tier do cut up or break the growing plants at their roots. This set also allows more clearance and prevents clogging. The square teeth do not break. The frame is made of strong flexible angle steel and handles and shafts are adjustable. Send for free circular. The Stronger Corn Planter and Six-Drill are the best for you to use.
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AETNA LIFE.

Its Remarkable Progress in 1903.

The condensed statement of the Aetna Life Insurance Company, of Hartford, Conn., which appears elsewhere to-day is a showing of growth and strength that must be especially gratifying to policy holders of this sterling company, coming as it does after a year in which financial institutions have had many unusual conditions to contend against.

In these days of insurance progress one naturally looks to the leading insurance company in New England, and to the largest company in the world issuing Life, Endowment, Accident, Health and Liability insurance for big results, but when one looks over the Aetna Life's record for 1903 the magnitude of the favorable results fairly astonishes him.

The Aetna Life, which is now over half a century old, has developed into one of the famous companies of the country, and is a notable monument of the business and financial ability of the president, Ex-Governor Morgan G. Bulkeley. When he took the helm twenty-five years ago it had in round numbers \$26,000,000 of assets, and was carrying about \$78,000,000 of life insurance. To-day it has over \$68,000,000 of assets, and is carrying \$226,000,000 of life insurance, to say nothing of over \$208,000,000 of accident insurance. A very large and important part of this splendid growth is due to the wonderful stride made in the accident and liability department of its business.

These are the important facts about what the Aetna Life has been doing. It is not only a matter simply of interest to its policy holders, or to its managers, but to every citizen of the country at large who seeks for the very best there is of insurance that really insures.

VERY POPULAR.

The "Osgood" Standard Scales, manufactured by Osgood Scale Co., 137 Central street, Binghamton, N. Y., are the subjects of an illustrated announcement to the trade, in this issue. They emphasize the fact that they want dealers and agents everywhere to handle the farm scale, the house adds a proposition to ship scales on a thirty-days' trial. The wagon scales made by this firm are becoming very popular and the sales are larger than was expected. A catalogue will be sent on application.

LEGAL LORE.

Just after the war an old darky came up to the Governor and said,—

"Marster, kin you make me jestice ob de peace?"

"Well, Uncle Ned, in a case of suicide what would you do?"

Uncle Ned thought deeply. "Marster, I'd make him pay de costs of de court and support de child."—December Lippincott's.

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Clod Crusher and Leveler.

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3 to 13½ feet

Agents
Wanted.



The best pulverizer—cheapest Riding Harrow on earth. We also make walking ACMEs. The ACME crushes, cuts, pulverizes, turns and levels all soils for all purposes. Made entirely of cast steel and wrought iron—indestructible.

Send on Trial

To be returned at my expense if not satisfactory. Catalogue and Booklet "An Ideal Harrow" by Henry Stewart, mailed free.

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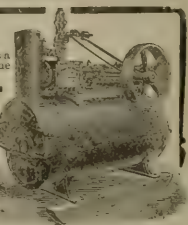
FOR THE PLANTER

the Planter, the Farmer, the Miller, the Sawyer, or Anybody Else who desires a highly efficient power which will require little space, nothing quite equals the

Leffel Combined Engine and Boiler

It is entirely self-contained. Machinery can be bolted to either side of engine shaft. Exceedingly safe. Free from swaying motion. We make them from 4 to 40 h. p. Being mounted on skids with engine on top, they are easy to handle and will stand the hardest kind of usage. Great favorites with saw mill owners. We also make other engines in great variety. Write at once for our special book on "Power Economy and Efficiency." It is sent free for the asking.

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Made in a variety of styles, including Power Mills, Sweep Mills, Full and Power Combined. The line that meets feeders' wants and is right in price. Don't say until you have seen our late catalogue. Mailed free. Write for it today.

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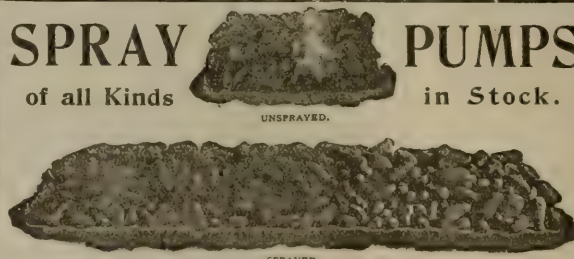
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SPRAY PUMPS

of all Kinds in Stock.

Spraying Calendar Free:

Write for Catalogue:



The two illustrations above show the results of spraying potatoes at the Vermont Experiment Station. The sprayed vines yielded at the rate of 291 bushels per acre, while the unsprayed vines yielded at the rate of 904 bushels per acre, a difference of 191½ bushels per acre. Then surely it pays to spray potatoes, and what is true of this crop is also true of other crops, especially fruits. Sprayed fruit yields more and sells better. Water supply and plumbing systems installed.

SYDNOR PUMP & WELL CO., (INCORPORATED.)

Box 949.

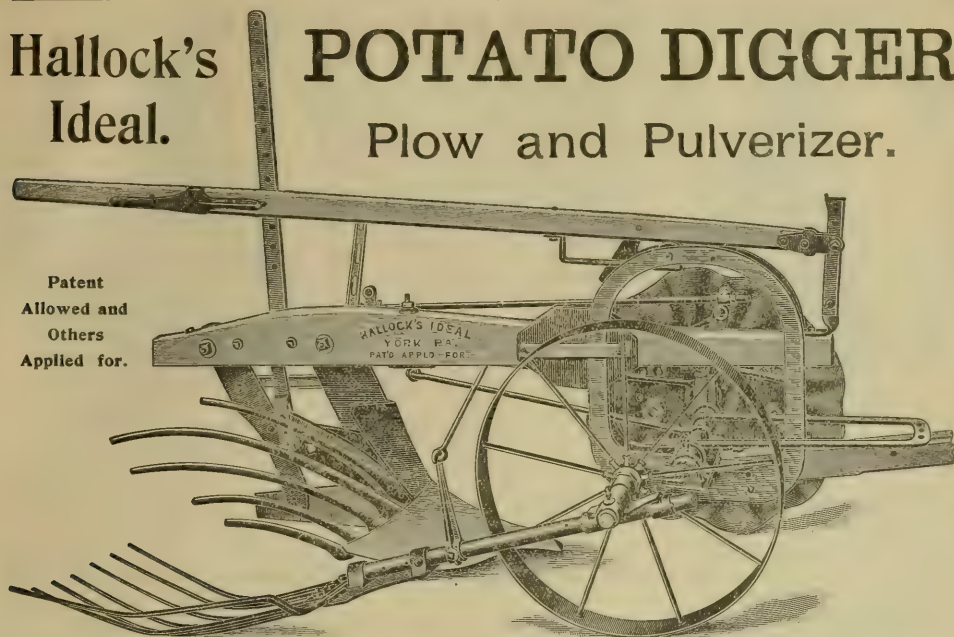
RICHMOND, VIRGINIA.

**Hallock's
Ideal.**

POTATO DIGGER

Plow and Pulverizer.

Patent
Allowed and
Others
Applied for.



Can We Send You this Splendid Machine on Trial?

We have spent 20 years in perfecting this Potato Digger and are satisfied that it is the only successful one on the market. We are willing for YOU to say whether it is what we claim for it. If you don't like it, the *Digger is ours*. The Southern Planter has examined its merits, and recommends its readers to send for it on trial. Will you do it? Let us mail you particulars. Write to-day. NOTICE THE AGITATOR on the wheel; remove it, and you will have the *best plow in the world*.

We want a good, active, responsible Energetic Agent in every section of the country to handle the "IDEAL." We will sell the first machine in each locality at a greatly reduced price. We protect our agents. The wise man will surely act quickly for he must see that territory on this machine will be eagerly sought for.

SPECIAL.

The Keystone Farm Machine Co., of York, Pa., have the exclusive right to manufacture our Hallock Flat Tooth Weeder for the Eastern and Southern territory. The Janesville Machine Co., of Janesville, Wis., have the same rights for the Western territory. Our friends will therefore have no difficulty in securing this well known and valuable machine. The patents have been fully sustained by five different Circuit Courts.

Write for Circulars and Testimonials from Those Who Have Used the Digger.

D. Y. HALLOCK & SONS, Box 813, YORK, PA.

If you will give us your name and address we will send you an elegant 32-page catalogue—

A Treatise on Potato and Corn Culture.

Good Buggies and How They Are Made

The above is the title of my new book which has just been published. It should be in the hands of every buggy user, as it not only treats fully on the construction of a buggy from the ground up, but teaches the reader how to tell a good buggy from a poor one. No matter whether you intend buying a new buggy now or later on, this book contains information that will be of great value to you, as it not only tells you how each and every part of the buggy is made, but illustrates by actual photographs, taken from our factory, the method of making and finishing the different parts. If you have never had the opportunity to go through a large carriage factory and see just how the work is done, this is a chance for you to do the next best thing; in fact, this really gives you a better opportunity to study the different methods of construction than you would have in a hurried trip through a factory. The regular price of the book is FIFTY CENTS, but for a limited time only it will be sent absolutely free of charge, (postage prepaid, to any reader of this paper who will answer the questions in the coupon below. Address:

H. C. PHELPS, President and Treasurer,
The OHIO CARRIAGE MANUFACTURING COMPANY,
2010 Sixth Street, Cincinnati, Ohio.

Cut out this Coupon and Mail

Of whom did you buy your last buggy?

When will you buy a new one?

Have you one of our Catalogues?

If not, would you like to have one, with complete information of our plan of selling our vehicles, direct from factory to consumer, at wholesale prices and on thirty days Free Trial?

Name.....State.....Rural Route.....



Welding Axles.



Hand Rubbing of Body.

.....

BALTIMORE'S SEED AND SUPPLY HOUSE.

The Seed House of Griffith & Turner Company, of Baltimore, who grow seeds in the North, South, East and West, each kind in the section of country where it develops best, is a good concern to consider when placing this spring's orders. Their plan of sectional growing of seeds brings universal satisfaction to their patrons. It requires but a statement of how they proceed to convince every planter that the plan is right. We suggest that our readers send for their catalogue and learn more of their plan of doing business. They also handle a full line of Farm, Garden, Dairy and Poultry Implements, Tools and Appliances. These several departments are each in charge of a competent head, and they are enabled to keep a large force busy throughout the year instead of for a short period at seed-selling time. Their advertisement will be found elsewhere. Consult it, and then write them for the catalogue at the particular address there given.

The kind of garden tool you use has about everything to do with the success of the crop, as well as the pleasure people get out of the calling. The line of Planet, Jr., tools is suited to every purpose. The users all tell the same story. One of them in Iowa, C. F. Sanderson, of Linn Junction, puts it this way: "I purchased a No. 4 Drill of Hamilton Brothers. It is the best tool of the kind I ever saw. It can be used in so many different ways. You can discover a new use for it every time you use it." Don't fail to note the Planet, Jr., advertisement elsewhere.

"Got any oysters?" asked the guest in a restaurant. "No, sah," replied the sable waiter; "ain't got no shell-fish, 'cept eggs, sah."

Established in 1866.

300 Acres Under Cultivation.

W. T. HOOD & CO., Old Dominion Nurseries, Richmond, Va.

OFFICE: CHAMBERLAYNE and RENNIE AVENUES.

Take Lakeside Car First and Broad Sts. PHONE No. 2155.

Nurseries, Brook Road Half Mile from City, and Hanover Co.

Wholesale and Retail Growers of High Grade Nursery Stock,
Shade Trees, Lawn Trees, Shrubs, Roses, Etc.

FRUIT TREES.

All the Standard and New Varieties. We have experienced men to plant trees and lay out grounds when desired. **Shade Trees a Specialty.** Catalogues mailed on Application.

AGENTS WANTED. Write for Terms. Liberal Commissions. (Mention this Paper.)



The **ROCKER CHURN**

Gets the butter from the cream down to the one thousandth part. Made of tasteless wood and the churning process is entirely the result of its own motion—no machinery inside or out to get out of order or require oiling.

Its Special Advantages

are: 1—Simplicity. 2—Least friction. 3—Gravity does the churning; a child can operate it. 4—Absolutely no adjustments, always ready. 5—Nothing but the churn box to clean, easily accessible. 6—Violent agitation of cream without paddles or dashers. 7—Gives the finest grade of butter of any churn on the market. **WE PAY THE FREIGHT.** Your money back if not satisfied. In eight convenient sizes, 8 to 60 gallons. Prices right as the quality. Illustrated circulars free.

Rocker Churn Mfg. Company, Forsyth, Georgia.

Black Leg Vaccine PASTEUR VACCINE CO. CHICAGO SAN FRANCISCO.

AGENT - WANTED

Good man in every county to sell

Osgood Standard Scales

for store, Factory and Farm.

most complete line made 1903-4 Patterns Steel Lever Lock Scales are beauties. Prefer man experienced in selling machinery and implements. Fine catalogue. No samples. Can be handled nicely as side line. Liberal contract. Exclusive agency. Have you that man in mind. Show him this paper. He can make money. We want him now. Act quick. Osgood Scale Co., 137 Central St., Binghamton, N. Y. Largest makers of Farm Scales in this country.

WANTED

A good live man who understands farming, desires to rent a farm; has 2 good men to work with him; will give half crops or pay cash rent; can give bond. Address "O. A. G." care Southern Planter.

FOR RENT.

A 400 acre farm, 100 of which is James river bottoms, none better; 300 acres clay, chocolate and gray soil; 300 acres arable. Buildings good, large new dwelling house. Nine miles from Richmond, Va., 1½ miles from electric cars, well watered, a good farm. Apply to JAMES BELLWOOD, R. F. D. No. 1, Manchester, Va.

"1,000 BOYS WANTED."

A thousand boys wanted, is the way the Ratekins' Seed House, of Shenandoah, start off their seed advertisement in this issue of this paper. This old reliable firm is among the oldest established seed houses in the United States, and their twentieth annual illustrated catalogue is one of the best that has found its way to our table. It is a fine affair of over 80 pages, and will be sent free to all who mention this paper. See their advertisements in another place in this paper, and send for it to-day, and be sure to say you saw their advertisement in this paper.

HALLOCK POTATO DIGGER.

Bonnerton, N. C., July 8, 1903.
Messrs. D. Y. Hallock & Sons,
York, Pa.

Gentlemen:

Enclosed you will find my check, which is to pay for the digger shipped to Mr. J. F. Cowell, Bayboro, N. C. He tells me that he is very much pleased with the digger, and that those who saw his work were well pleased, and that he was sure he could sell as many as thirty or forty this coming spring, and that he would want another for his fall crop. Now, Mr. Cowell says that he saved 3c. per bbl. on his crop, which would pay for the digger alone.

Yours truly, W. H. WHITLEY.

AFTER THE WEDDING.

He—"It certainly was a pretty wedding, and everything was so nicely arranged."

She—"That's just what I think; and the music was especially appropriate."

He—"I don't remember. What did they play?"

She—"The Last Hope."—Christmas Lippincott's.

A DANGER SIGNAL.

At a wedding in a church, noticing the dim religious red light that burns over the chancel, Teddy asked his bachelor uncle, "Is that a danger signal, Uncle Tom?" and Uncle Tom, who is suspected of hovering on the brink of a proposal, was heard to reply "Yes."—December Lippincott's.

FOR SALE

50 BARRED PLYMOUTH ROCK
Hens, last Spring's hatch, \$1.00 each.

E. M. SANDYS, Burkeville, Va.

"Feeds and Feeding"

**Prof. Henry's Great Book for
Farmers and Stockmen.**

Delivered anywhere for - - \$2.00
With the SOUTHERN PLANTER, 2.25

Peach and Apple Trees.



Bonavista Nurseries, Greenwood, Va.

We Offer a Fine Lot of Choice Trees for Spring Planting.

Our Apple Trees are the best:

Wine Sap Mammoth Black
Twig, York Imperial and Al-
bemarle Pippin, all Perfect and
Well-grown Trees.

Our Peach Trees are the Standard Sorts:

Stump, Elberta, Bilyeu's
[Comet], Wonderful, Cham-
pion, Globe, Picquet's Late,
Albright's Winter, E. & L.

We send out none but good trees, and have never had a complaint made by any purchaser of our stock. Order soon, especially Peaches, as good trees will be very scarce this season.

CHAS. F. HACKETT, Manager.

NEW IDEA INCUBATORS.

Messrs. Channon, Snow & Co., Quincy, Ill., have gotten out a very attractive catalogue, entitled "How to Make and Save Money With Incubators."



We show herewith a photographic reproduction of the book, and trust it will prompt numbers of our readers to send for a copy of it.

This company is the pioneer in promoting incubators along dual lines, as they not only make and sell finished machines, but do quite an extensive business in the sale of plans and fixtures, by which any one with a slight mechanical turn of mind can make his own hatchers and brooders. They, of course, furnish all parts that are difficult to make, such as regulators, egg-trays, glass doors, etc.

Kindly mention the Southern Planter when writing to them.

A GOOD START.

Two natives of the soil in a New England village were overheard discussing the prospects of one Jim Means, who had forsaken a factory for agricultural pursuits.

"I hear that Jim has gone to farm-in'," said one of the village worthies.

"Yaas, he has," was the drawing reply, "but he ain't went into it very steep yit. He has hired a hoss for the summer an' rented a keow an' borrowed a hen to put a settlin' of eggs under an' his folks has give him a peeg, but he ain't farmin' it on the scale I hear they do out West."

"No," assented the other; "still, he's got considerable of a start, an' ort to do well if his eggs hatch an' his peeg thrives an' the keow is a good butter-maker."—December Lippincott's.

"I heard to-day that your son was an undertaker. I thought you told me he was a physician."

"Not at all. I said he followed the medical profession."

"Fifty miles an hour," yelled the chauffeur, "are you brave?"

"Yes, I am just full of grit," replied the pretty girl, as she swallowed another pint of dust.

POSTAL CHECKS.

Extract from Report of Postmaster-General Henry C. Payne for 1903.

The rapid extension of the rural free delivery service increases the demand that the government shall provide some easy, convenient, and safe method for the transmission of small sums of money through the mails, and I urge upon Congress the importance of passing some law which will insure to our people this advantage at as early a date as possible.

As the rural free-delivery service has been extended the number of letters carrying small amounts of currency has greatly increased. At present there is no convenient method provided in the rural districts for making such remittances through the mails except in currency or postage stamps, and such currency and stamp remittances are a constant temptation to those handling them.

ASSETS, \$900,000.

Virginia Fire and Marine Insurance Company, of Richmond, Va.

Insures Against Fire and Lightning.

All descriptions of property in country and town, private or public, insured at fair rates, on accommodating terms.

AGENCIES IN EVERY TOWN AND COUNTY.

W. H. PALMER, President.

W. H. McCARTHY, Secretary.

CHARTERED 1870.

MERCHANTS NATIONAL BANK

OF RICHMOND, VIRGINIA.

Capital Stock,	-	-	-	\$200,000.00
Surplus and Profits,	-	-	-	\$672,445.75

Designated Depository of the United States, City of Richmond and Commonwealth of Virginia.

Being the Largest Depository for Banks between Baltimore and New Orleans, this Bank offers superior facilities for direct and quick collections.

JNO. P. BRANCH,
President.

JNO. K. BRANCH,
Vice-President.

JOHN F. GLENN,
Cashier.

THE

SEABOARD

AIR LINE RAILWAY

OFFERS

PROFITABLE

INVESTMENTS

TO

THE MANUFACTURER,
THE STOCK RAISER,
THE DAIRYMAN,
THE FRUIT GROWER,
THE TRUCKER.

WHERE YOUR LABOR IS NOT IN VAIN.

Would a country where work can be carried on the entire year and where large profits can be realized interest you?

The SEABOARD Air Line Railway traverses six Southern States and a region of this character. One two cent stamp will bring handsome illustrated literature descriptive of the section.

J. B. WHITE,

Gen. Industrial Agt., Portsmouth, Va.

EDW. W. COST,

Traffic Mgr.

CHARLES B. RYAN,

Gen. Pass. Agt., Portsmouth, Va.

BILTMORE FARMS, = *Biltmore*, N. C.

Headquarters for GOLDENLAD JERSEYS,

Also Get of TREVARTH and GEN. MARIGOLD. ❀ ❀ ❀

GOLDEN LAD'S SUCCESSOR. First and sweepstakes over all at the Pan-American Exposition, the champion JERSEY BULL OF AMERICA, and out of Golden Ora, our great prize-winning cow, both born and developed on these Farms, is among our service bulls.

Biltmore Jerseys are a combination of large and persistent milking qualities with an individuality that wins in the show ring.

SPECIALTY. Write for descriptive circular of the best lot of young bull calves ever offered, both for breeding and individuality. They are by noted sires and out of large and tested selected dams. Many of these calves are fit to show and win in any company. ❀ ❀

BILTMORE POULTRY YARDS. ❀ ❀

SPECIALTY. Write for descriptive circular of eggs from our prize-winning pens. Over 50 yards to select from, made up of the winners at the leading shows for the last two seasons. If you want winners you must breed from winners.

Headquarters for the best IMPORTED ENGLISH BERKSHIRES.

APPLY TO BILTMORE FARMS, BILTMORE, N. C.

THE IMPERIAL .. FRUIT and POULTRY FARM ..

OFFERS THE FOLLOWING SURPLUS STOCK ALL FIRST-CLASS AND THOROUGHbred

===== AT ONLY \$1.00 EACH: =====

150 Barred Plymouth Rock Cockerels and Pullets.

30 S. C. Brown Leghorn " .

1 White Leghorn Cockerel.

5 Buff Plymouth Rock Hens and Pullets.

12 White Wyandotte Cockerels.

20 Silver-Laced Wyandotte Cockerels.

10 White Plymouth Rock Cockerels.

3 Black Minorca Cockerels.

EGGS FOR HATCHING IN SEASON, \$1.00 PER SITTING OF 15.

Also 25 BARRELS JERUSALEM ARTICHOKEs, only \$2.00 per barrel. The greatest and cheapest hog feed known, will produce from 400 to 600 bushels to the acre.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

THE SILK GROWING SEASON OF 1904.

The public interest in the revival of silk growing in the United States continues unabated. Substantial progress has been made during the year just closed and the prospects are good for increased output of silk cocoons the coming spring. Silk growing associations are being formed in many States, and public schools are introducing the study into their systems. Among the latest formed associations are the American Silk Growing Association of Vineland, N. J., of which the President is the well known financier, Hon. Wharton Baker, of Philadelphia. The Silk Growers' Association of Patchoque, Long Island, has been organized with Dr. Franklin Sylvester, of New York, as President. A number of towns in Michigan grew silk in 1903. In California the industry is centered about San Diego, where there are quite a number interested. In Georgia the Tullulah Falls Company are increasing their plant, and an industrial school to teach silk growing and domestic arts has been planned there and will soon be in operation. Steps are being taken to establish a school similar to that at Tullulah Falls in Western North Carolina. Silk culture in America has come to stay. When carried on as we have recommended, as a household industry to occupy spare time of the women, children and aged or feeble members of the family, silk growing cannot fail to fill an important place in our social economy. It will furnish useful and remunerated employment for labor otherwise unproductive. It will add to the comforts and happiness of the aged and young and poorer classes of our population. It will make country life more bearable to the young of both sexes who now look even to life in the factory towns as a relief from the hardships of the farm.

But silk reels and silk weaving mills must necessarily follow the establishment of silk farms, and the State which fosters silk growing will in the end secure a bountiful reward in general prosperity. North Carolina can easily and without detracting from any profitable industry already established add to the wealth produced in the State not less than \$6,000,000 annually. This is a sum worth striving for.

The North Carolina Department of Agriculture will import from Italy in February a sufficient quantity of silk worm eggs to supply all silk growers in the State who make application in time, or during the month of January. The prices of eggs will be the same as last year, viz: Per ounce, \$3.00; per one-half ounce, \$1.60; per one-quarter

—WANTED—

To buy some POLLED ANGUS Heifers or cows.

E. M. SANDYS, Burkeville, Va.

Your money back

if you are not satisfied

DO YOU SUPPOSE that a company with a capital of \$500,000.00, paid in full, and the proud reputation of 36 years of continuous success, would make such an offer and not carry it out to the letter?

DO YOU SUPPOSE we would jeopardize our standing with the public and our chances of still greater success by failing to fulfill any promise we make?

DO YOU SUPPOSE we would make such an offer if we did not have the utmost confidence in the satisfying quality of our goods?

WE KNOW we can please you and save you money, for HAYNER WHISKEY goes direct from our distillery to you, with all its original richness and flavor, carrying a UNITED STATES REGISTERED DISTILLER'S GUARANTEE OF PURITY and AGE and saving you the big profits of the dealers. That's why it's best for medicinal purposes. That's why it's preferred for other uses. That's why we are regularly supplying over a quarter of a million satisfied customers. That's why YOU should try it.

Direct from our distillery to YOU
Saves Dealers' Profits! Prevents Adulteration!

HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

4 FULL QUARTS \$3.20 EXPRESS PREPAID

We will send you FOUR FULL QUARTS of HAYNER'S SEVEN-YEAR-OLD RYE for \$3.20, and we will pay the express charges. When you receive the whiskey, try it and if you don't find it all right and as good as you ever drank or can buy from any body else at any price, then send it back at our expense and your \$3.20 will be returned to you by next mail. How could an offer be fairer? We take all the risk and stand all the expense, if the goods do not please you. Won't you let us send you a trial order? We ship in a plain sealed case; no marks to show what's inside.

Orders for Ariz., Cal., Col., Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash. or Wyo., must be on the basis of 4 Quarts for \$4.00 by Express Prepaid or 20 Quarts for \$16.00 by Freight Prepaid.

Write our nearest office and do it NOW.

THE HAYNER DISTILLING COMPANY

ATLANTA, GA. DAYTON, OHIO ST. LOUIS, MO. ST. PAUL, MINN.
155 DISTILLERY, TROY, O. ESTABLISHED 1868.



The Chesapeake & Ohio Railway

Extending from Cincinnati and Louisville, and
THROUGH ITS CONNECTIONS...

THE BIG FOUR SYSTEM, from Chicago, St. Louis, Peoria, Indianapolis, Sandusky and Cleveland;

THE OHIO CENTRAL LINES, from Toledo and Columbus;

THE CINCINNATI, HAMILTON & DAYTON, from Detroit, Toledo, Lima and Dayton—

FORMS THE MOST DIRECT ROUTE. And from Five to Twelve Hours the Quickest

To STAUNTON, LYNCHBURG, CHARLOTTESVILLE, RICHMOND, PETER BURG, NORFOLK, And Principal Virginia Ports.

H. W. FULLER, Gen. Pass. Agt. C. & O. Ry., Washington, D. C.

ounce, 80 cents; per one-eighth ounce, 45 cents. No one without previous experience should attempt more than one-eighth ounce the first year. Those who have had experience and who have a supply of mulberry leaves at hand may attempt a full ounce. The Department will find a market for all the good cocoons produced in North Carolina this year at \$1.00 per pound for choked cocoons. There need be no fear that the market will be over-supplied. We can sell any amount at the price named. The Department makes no charge for its services to citizens of the State.

We can still supply to farmers only, rooted mulberry trees suitable for feeding silk worms for \$1.00 per hundred postpaid. A small number of copies of our silk Bulletin, No. 181, still remain, and will be sent free to those wishing to take up silk culture. A new circular giving estimates and detailed drawings for erecting scaffolding and holding trays will, which to grow the worms will be issued next month. From these directions any one handy with tools can construct all the apparatus needed out of common pine lumber.

More silk growing associations should be organized in North Carolina.

This affords a good opportunity for far-seeing and philanthropic persons in every community to benefit their neighbors by organizing such associations and starting silk growing. The governing bodies of almshouses, hospitals and girls' schools should also take steps to introduce this industry with a view of enabling their populations to earn a little money each year without any great risk or hardship. Teachers in graded schools might well introduce the care of silk worms as a species of nature study as well as a profitable art.

Applications for silk-worm eggs and mulberry trees should be made to the undersigned and must in every case be accompanied by the full amount of cash in postage stamps or money orders. Address

GERALD MCCARTHY, *Biologist*,
N. C. Dept. Agriculture, Raleigh, N. C.

HE SAW WHERE THE MISTAKE LAY.

The following interesting and pointed story is taken from Dr. Orison Sweet Marden's editorial, "Superiority, the Best Trade-Mark," in the February Success:

"Never put your name to a certifi-

cate of a piece of work, unless you know it is worthy," said Senator Geo. F. Hoar, in an address to students; "throw up your job first. Let no employer's command move you to do that which you know is wrong. The city of Lowell was built on the Merrimac river. Dams and canals were constructed to conserve the water power. There was no competent engineer for such work in America at that time. A young Englishman named Francis came over and was employed. He looked over the work already done. He learned that, sixty years before, there had been a great flood in the valley. He went to the directors of the company. 'Gentlemen,' he said, 'you must rebuild Lowell and the works.'

"We can't do that," was the answer; 'we have spent large sums, and must take a risk.'

"Then, gentlemen," said Francis, 'here is my resignation.'

"The directors reconsidered, and rebuilt under Francis' direction. In a year a flood came, and the town and the works stood the test. Under the former conditions, they would have been swept off the face of the earth. There is a lesson. Learn it."

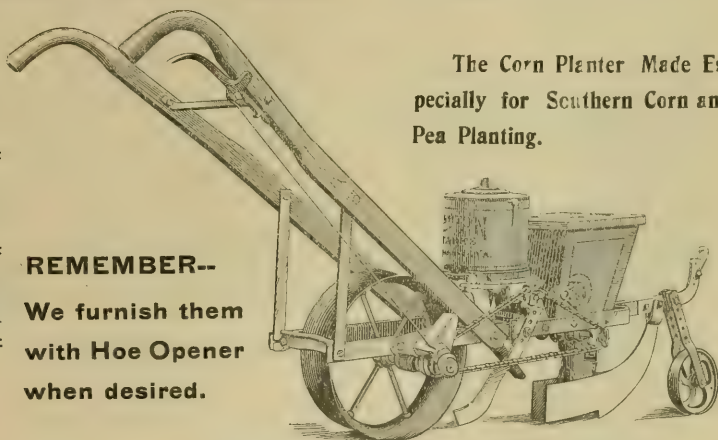
THE "STAR"

CORN

PLANTER

REMEMBER--

We furnish them
with Hoe Opener
when desired.



The Corn Planter Made Especially for Southern Corn and Pea Planting.

It does, and does well, everything a planter should do.

Drills or drops at any distance any number of grains. It handles corn, peas, beans etc., equally well.

Every grain is seen as it falls to the ground.

The planters are furnished with runner openers or shovel openers.

Thousands in use all over the South, and demand increasing every year.

As of all good things, there are imitations, but see that you get the GENUINE WITH OUR NAME CAST ON THE TOP OF GRAIN HOPPER.

Don't be misled by being told some other planter is just as good; pay more if necessary and get a "STAR."

ASHTON STARKE, RICHMOND, VIRGINIA.

Our Clubbing List.

The following list of papers and periodicals are the most popular ones in this section. We can SAVE YOU MONEY on whatever journal you wish:

DAILIES.

	Price Alone.	With Planter.
Times-Dispatch, Richmond, Va.....	\$5 00	\$5 00
The Post, Washington, D. C.....	6 00	6 00
The Sun, Baltimore, Md.....	3 00	3 40
News-Leader, Richmond, Va.....	3 00	3 00

THI-WEEKLY.

The World (thrice-a-week), N. Y....	1 00	1 25
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WEEKLIES.

Harper's Weekly	4 00	4 00
Harper's Bazar	1 00	1 40
Montgomery Advertiser	1 00	1 00
Nashville American	50	75
The Baltimore Sun	1 00	1 35
Breeder's Gazette	2 00	1 75
Heard's Dairyman	1 00	1 35
Country Gentleman	1 50	1 75
Religious Herald, Richmond, Va.....	2 00	2 25
Times-Dispatch, Richmond, Va.....	1 00	1 25
Central Presbyterian, "	2 00	2 25
Horseman	3 00	3 00

MONTHLIES.

Wool Markets and Sheep	50	75
Dairy and Creamery	50	75
Commercial Poultry	50	75
All three	1 50	1 15
North American Review	5 00	5 00
The Century Magazine	4 00	4 25
St. Nicholas Magazine	3 00	3 25
Lippincott's Magazine	2 50	2 50
Harper's Magazine	4 00	4 00
Forum Magazine	3 00	3 25
Scribner's Magazine	3 00	3 25
Frank Leslie's Magazine	1 00	1 35
Cosmopolitan Magazine	1 00	1 35
Everybody's Magazine	1 00	1 35
Munsey Magazine	1 00	1 35
Strand Magazine	1 25	1 65
McClure's Magazine	1 00	1 35
Argosy Magazine	1 00	1 35
Review of Reviews	2 50	2 75
Blooded Stock	50	60
Successful Farming	1 00	75
Southern Fruit Grower	50	85

Where you desire to subscribe to two or more of the publications named, you can arrive at the net subscription price by deducting 50 cents from "our price with the PLANTER." If you desire to subscribe to any other publications not listed here, write us and we will cheerfully quote clubbing or net subscription rates.

Subscribers whose time does not expire until later can take advantage of our club rates, and have their subscription advanced one year from date of expiration of their subscription to either the PLANTER or any of the other publications mentioned.

Don't hesitate to write us for any information desired; we will cheerfully answer any correspondence.

We furnish NO SAMPLE COPIES of other periodicals.

Seed House of the South.

RED CLOVER,
MAMMOTH CLOVER,
CRINSON CLOVER,
WHITE CLOVER,
LUCERNE CLOVER,
ALSYKE CLOVER,
BOKHARA CLOVER,
JAPAN CLOVER,
BUR CLOVER,



TIMOTHY,
ORCHARD GRASS,
RED TOP or HERDS GRASS,
KENTUCKY BLUE GRASS,
RANDALL GRASS,
TALL MEADOW OAT GRASS,
JOHNSON GRASS,
GERMAN MILLET,
BUCKWHEAT,
OATS and
CANE SEED.

"Whatsoever One Soweth, That Shall He Reap."

We sell strictly reliable FIELD AND GARDEN SEEDS of every variety at Lowest Market rates, included in which are

RAGLAND'S PEDIGREE TOBACCO SEEDS.

WE ALSO SELL

Our Own Brands of Fertilizers

For Tobacco, Corn, Wheat, Potatoes, &c.

Pure Raw-Bone Meal, Nova Scotia and Virginia Plaster and Fertilizing Materials generally.

Parties wishing to purchase will find it to their interest to price our goods.

Samples sent by mail when desired.

Wm. A. Miller & Son,

1016 Main Street,
LYNCHBURG, VA.

Headquarters for Nursery Stock.

WHOLESALE
AND
RETAIL.

We make a specialty of handling dealers' orders,

ALL STOCK TRUE TO NAME.

Apples,	Nectarines,	Pecans,	Ornamental and
Pears,	Cherry,	Chestnuts,	Shade Trees,
Peach,	Quinces,	Walnuts,	Evergreens,
Plum,	Almonds,	Small Fruits,	Roses, Etc,
Apricots,			

CALIFORNIA PRIVET, for Hedging.

WRITE FOR CATALOGUE.

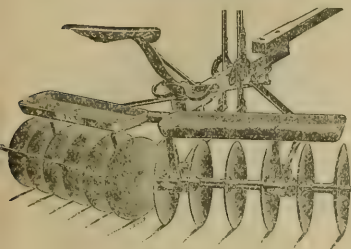
AGENTS WANTED.

FRANKLIN DAVIS NURSERY CO., [Baltimore, Md.]

PERFECTED IMPLEMENTS FOR SPRING WORK.



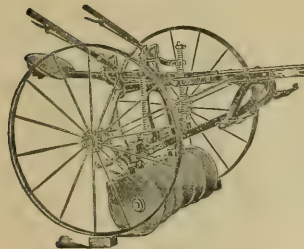
THE CRESCENT PLOW.



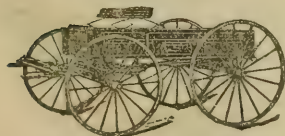
STAR HARROW—Steel Wrought Boxes.



SINGLE ROW PLANTER.



DISC CULTIVATOR.



IMPERIAL ONE HORSE WAGON.

WEEDERS, FERTILIZER DISTRIBUTORS, FIELD ROLLERS with solid Steel Heads, BALING PRESSES for Hand or Power, GRAIN DRILLS, FEED CUTTERS, PEA HULLERS, THRESHERS, ENGINES, SAW MILLS, GRINDING MILLS, &C., &C. Write for Prices.

To get the best results prepare your land with the WATT CROWN or CRESCENT PLOW, made in sixteen sizes and adapted to every variety of work in all kinds of soil. Guaranteed to be the best general purpose plows made and sold subject to approval by draft.

OUR ROAD PLOWS will enter hard ground when no other will.

DISC HARROWS with or without solid steel weight boxes. Most durable bearing with oil reservoir directly over axle free from dust and clogging. Anti Friction Rollers. Adjustable Seats. Easy to handle. Light in draft.

ALL STEEL LEVER HARROWS made up of sections of 25 teeth each. Instantly adjusted straight or steady by lever.

THE EMPIRE CORN PLANTER with or without fertilizer attachment The Lightest Planter Made. Plants any quantity, and distance accurately.

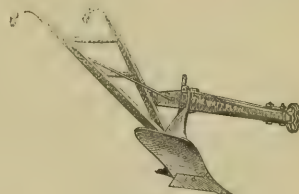
DOUBLE ROW PLANTER with or without Check Rower Drill and Fertilizer attachments. Adjustable in width, distance of drop and quantity.

DISC CULTIVATORS and HARROW combined. Made of steel and malleable iron. Light Draft, Great Strength, High Steel Arch, Steel Axle, Steel Wheels, adjustable in width. Discs adjustable in depth and at any angle.

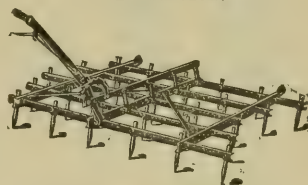
WALKING AND RIDING CULTIVATORS with four, six or eight shovels and spring teeth.

FARM WAGONS built of air-dried timber and all material the best that can be procured.

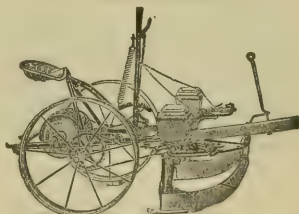
IRON AGE PATTERN CULTIVATORS and HARROWS, MALTA DURABLE SHOVEL PLOWS.



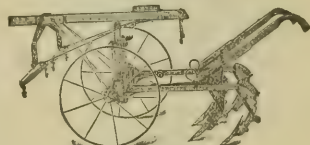
THE WATT PLOW.



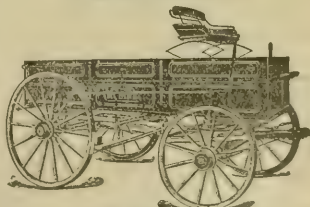
LEVER HARROW.



DOUBLE ROW PLANTER.



WALKING CULTIVATOR.



THE NEW MOLINE.

RICHMOND, VA. THE CALL-WATT CO.

THE TOP PRICE FOR A COW.

General Russell A. Alger, former Secretary of War, and now junior United States Senator from Michigan, is said to have paid the record price for a cow—and that a dead one. Fifty-odd years ago he was an orphan in Richfield, Ohio, without a cent, and with but one suit of clothes. He wanted to attend school, and went to a doctor, who lived in a neighboring village, to ask for a chance to work for his board. The doctor did not need the services of a boy, but was so much impressed by young Alger's earnestness that he took him into his family and sent him to school. He did no work except to care for the doctor's horse and cow. The years sped on, and Russell A. Alger became a millionaire, while his benefactor was reduced to strained circumstances. One by one the doctor's children died, and he and his aged wife were left alone. But the old man kept his pride, and when General Alger assisted him he was forced to do so in roundabout ways. A dozen years ago the general paid the doctor a visit, determining to aid him.

"Why, Alger, you don't owe me anything," said the old man, "and I won't take anything."

"But I owe my education to you."

"Bosh! You owe that to yourself."

"But I caused you trouble and expense, for which I want to repay you."

"The trouble need not trouble you, and there wasn't any expense worth talking about. In fact, the only expense that you caused me, so far as I can remember, was the loss of a cow. Do you know, Alger, that, when you came to live with me, I had the best cow in these parts, and that your awkwardness completely spoiled her? Within three weeks you had made her so skittish that no one could go near her, and I had to sell her for beef."

"Then I owe you for that cow. I am going to pay you for her, and to add a little interest for the use of the money for about forty years."

After long argument the old man reluctantly consented to receive pay for his cow, and the check that General Alger drew to his order kept him in comfort for the remainder of his life.—Success.

A SAFE DIET RULE.

EAT THE SMALLEST AMOUNT OF FOOD THAT WILL PRESERVE GOOD HEALTH.

How long one determines, then, how much food to eat? Too much mystery has been thrown about this subject. Let your sensations decide. It must be kept in mind that the entire function of digestion and assimilation is carried on without conscious supervision or concurrence. It should be entirely unfelt and unknown, excepting by the

feeling of *bien-etre* which accompanies and follows its normal accomplishment. *Satiety* is bad. It implies a sensation of fullness in the region of the stomach, and that means that too much food has been taken. The exact correspondence, in a healthy animal, between the appetite and the amount of food required is extraordinary. As a rule, the meal, unless eaten very slowly, should cease before the appetite is entirely satisfied, because a little time is required for the outlying organs and tissues to feel the effects of the food that has been ingested. If too little has been taken, it is easy to make it up at the next meal, and the appetite will be only the better and the food more grateful.

No one was ever sorry for having voluntarily eaten too little, while millions every day repent having eaten too much. It has been said that the great lesson homeopathy taught the world was this: That whereas physicians had been in the habit of giving the patient the largest dose he could stand, they have been led to see that their purpose was better subserved by giving him the smallest dose that would produce the desired effect. And so it is with food. Instead of eating, as most people unfortunately do, as much as they can, they should eat the smallest amount that will keep them in good health.—February Century.

Merchants National Bank, Richmond, Virginia.

JOHN P. BRANCH, President.

JOHN KERR BRANCH, Vice-President.

JOHN F. GLENN, Cashier.

Comparative Statements for the Following Years:

ASSETS.

CLOSE OF BUSINESS ON DEC. 31,	1888.	1893.	1898.	1903.
Time and Demand Loans.....	\$ 667,661 76	\$ 788,099 01	\$ 1,029,973 19	\$ 1,367,607 95
Real Estate, Furniture, Etc.....	60,000 00	79,093 71	75,767 42	72,103 93
Five Per Cent Redemption Fund.....	2,250 00	9,000 00	5,625 00	10,000 00
United States Bonds for Circulation and deposit.....	525,000 00	421,000 00	998,100 00	761,000 00
State and City Bonds for United States Deposits.....	90,000 00	20,000 00	45,000 00	293,500 00
Premium on United States Bonds.....	8,480 00	133,142 50	364,826 83	25,000 00
Miscellaneous, Stocks and Bonds.....	301 78 38	341,023 17	1,140,676 23	566,622 43
Cash and Due from Banks.....				1,941,077 73
Total.....	\$ 1,655,179 14	\$ 1,791,358 39	\$ 3,659,968 67	\$ 5,036,912 04

LIABILITIES.

CLOSE OF BUSINESS ON DEC. 31,	1888.	1893.	1898.	1903.
Capital Stock.....	\$ 200,000 00	\$ 200,000 00	\$ 200,000 00	\$ 200,000 00
Surplus and Profits.....	18,122 76	215,991 53	316,931 91	660,120 19
Circulation.....	45,000 00	180,000 00	111,400 00	200,000 00
Deposits.....	1,292,066 38	1,195,366 85	2,971,536 76	3,685,191 85
Bond Liability Account.....			60,100 00	291,600 00
Total.....	\$ 1,655,179 14	\$ 1,791,358 39	\$ 3,659,968 67	\$ 5,036,912 04

This bank does a general banking business and respectfully solicits the accounts of individuals, corporations and banks, promising every facility which their balances, business and responsibility warrant.

We make a specialty of our collection department, and such business given us will have careful and prompt attention.

We pay three per cent. interest on deposits in our savings department or on certificate of deposit, payable on demand and bearing interest from date of deposit.

United States, State and City Depository.

A. C. SINTON, President.

R. R. GWATHMEY, Vice-President.

J. J. SUTTON, Secretary.

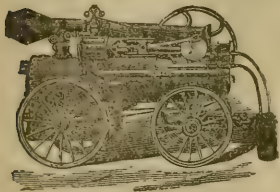
ESTABLISHED 1840.

THE WATT PLOW CO.,

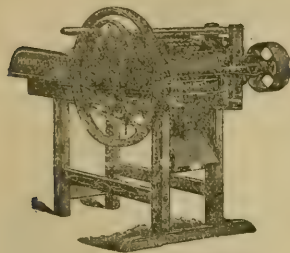
INCORPORATED 1893.

15th & Franklin and 14th & Main Sts., Richmond, Va.

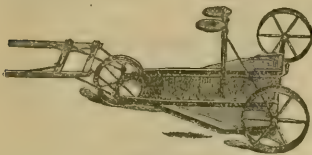
Agricultural Implements, Machinery, Vehicles and Harness.



PEERLESS ENGINE.



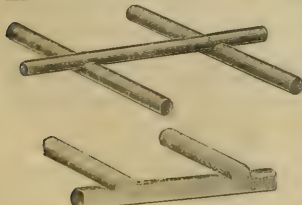
HOCKING VALLEY FEED CUTTER.



DAIN CORN CUTTER.



STAR SWEEP MILL.



SECTIONS OF WIRE FENCE.



A full stock always on hand, and prompt shipments guaranteed. South Bend, Dixie and Farmer's Friend Plows and repairs. The Hancock Rotary Disc Plow, warranted to go in the ground where all others fail.

Hocking Valley Feed Cutters, Cyclone Shredders, Smalley Feed Cutters, Dain Corn Cutters. Equal to any made. Staver Buckeye Feed Mill and Horse Power Combined. Star Sweep Mill. Either grinds corn on cob or shelled.

Whitman All-Steel, full circle Hay Presses. George Ertel Company's full circle Hay Presses. Rapid Fire Horse Power Hay Press, for one horse, a good, cheap press. Will put up from 150 to 200 bales a day. The well known Minnich Brand Baling Presses.

Hocking Valley Wine and Cider Mills. Hard wood rollers. The best mill made.

Hocking Valley Corn Shellers, for hand or power. Smalley Electric Pole and Wood Saws, for steam or horse power. Peerless Engines and Saw Mills always in stock. Several good second-hand Engines and other second-hand machinery for sale. "Pittsburgh Perfect" fencing, electrically welded. See cuts showing weld. Barb Wire, Plain Galvanized Wire, Baling Wire and Bale Ties. Continental Disc Harrows, Buffalo and Lean Spike Harrows.

The celebrated Columbus, Ohio, Buggies, Carriages, Runabouts, and Traps. Farm Wagons and Delivery Wagons, a complete stock.

Correspondence solicited.



SPIKE HARROW.

THREE SPECIAL COURSES OFFER- ED AT THE STATE UNIVERSITY, KNOXVILLE, TENN.

Three special courses are being offered this winter to the farmers of Tennessee at the State University. The first of these covers work in cereal judging and practical feeding and commences on January 18. The course is designed to give the farmers of the State an opportunity to learn something about the methods of selecting and improving corn and other leading cereals and how to feed the live stock of the farm to the best advantage.

The stock feeding work is carried on in the experimental barns. It includes practical work in feeding dairy and beef cattle, swine, etc. In the time devoted to the subject one can learn the best methods of combining food-stuffs and preparing rations for the different classes of live stock so as to secure the largest profit from their use.

The work in stock judging and dairying commences on February 1. The course provides training in judging and handling the different classes of farm live stock. Work with the score card is an important feature. The student is brought in direct contact with living animals and their good and bad points called to his attention. In dairying he is familiarized with the operations of butter and cheese

making and the testing of milk.

The course in farm poultry commences on February and lasts one week. It is under the direction of Mr. T. B. Orr, of Beaver, Pa., Superintendent of Poultry at the World's Fair and Secretary of the American Poultry Association. Mr. Orr is a recognized authority on the subject and will give a series of lectures and demonstrations on judging and handling the different classes of fowls and on the breeding, feeding and management of the same.

These three special courses should be attended by hundreds of farmers as the information to be derived from a visit to the Agricultural College and Experiment Station in itself would more than pay one for the time and money expended, not to speak of the valuable instruction that can be obtained at the same time.

Those intending to take any of these courses should communicate with Prof. Andrew M. Soule, Knoxville, Tenn., at the earliest possible date so that satisfactory arrangements can be made.

Mamma: "Willie, shut that window screen. You're letting the flies in."

Willie: "Well, you've got to let some of 'em in."

Mamma: "Why?"

Willie: "Cause if you don't let 'em in, how are they goin' to get on the fly paper?"

A rather simple-looking lad halted before a blacksmith's shop on his way from school, and eyed the doings of the proprietor with much interest. The brawny smith, dissatisfied with the boy's curiosity, held a piece of red-hot iron suddenly under the youngster's nose, hoping to make him beat a hasty retreat. "If you'll give me half a dollar, I'll lick it," said the lad. The smith took from his pocket half a dollar, and held it out. The simple-looking youngster took the coin, licked it, and slowly walked away, whistling.

When "Long John" Wentworth, a famous Chicago character, was a candidate for mayor of that city, there was a vigorous discussion over a two-headed calf on exhibition in Clark street.

Somebody had asked the question whether the calf was two calves with one body or one calf with two heads. The city was all torn up about it. There were letters in the newspapers, and many acrimonious domestic and public discussions. At length it was decided to leave the matter to Mr. Wentworth.

A committee waited on him and stated the case.

Wentworth listened to the arguments carefully. Then made this decision: "Inasmuch as I am a candidate for mayor, I decide that both sides are right."

W. J. CARTER, ["BROAD ROCK."] TURF JOURNALIST.

Address P. O. Box 929, - - - Richmond, Va.

Pedigrees traced and tabulated, stud circulars prepared, special attention paid to registration of thoroughbred and trotting horses.

Representing the . . .

Times-Dispatch, Richmond, Va.

Southern Planter, Richmond, Va.

Sports of the Times, New York.

Breeders and Sportsmen, San Francisco, Cal.

==FOR SALE== 40 Head Fine Mules,

Large, sound and grand lookers. Having finished a contract these Mules will be sold at bargains. Do not write for prices but come and look them over.

SIDNEY P. CLAY, 601 North 31st Street, Richmond, Va.

GREAT STAKES, 25521.

Record, 2:20.

Sire of Captain, 2:16½; Foxhall, 2:19½, etc. Bay horse, by Billy Thornhill, 2:24, Jam Sweetstakes, by Sweep Stakes, 293. Fee, \$25.00 the season.

W. H. NELSON, 1428 East Franklin St., Richmond, Va.

KELLY, 22283. Record, 2:27.

Sire of McChesney, 2:16¾, Etc.

Bay horse, by Electioneer 125, first dam Esther, dam of Expressive 3, 2:12½; Express, 2:21, etc.; by Express, second dam, Coliseum, by Colossus.

Kelly represents the highest type of a trotter, having grand size and the form and finish of a thoroughbred.

FEE, \$25 the season.

W. J. CARTER, Richmond, Va.

Kelly will serve at my private stables, 1102 Hull St., Manchester, Va.

WEALTH, 29579. Record, 2:10.

Bay horse, 16 hands high, by Gambetta Wilkes, 2:19½; dam Magnolia, by Norfolk, 3:60.

Note—As a prolific sire of speed and race horse quality Gambetta Wilkes is unexcelled.

FEE, \$25.00 the season.

W. H. CHAPMAN, Gordonsville, Va.

BURLINGAME 26235. Record, 2:18¼.

Brown horse, by Guy Wilkes, 2:15½; dam Sable, dam of Sable Wilkes, 2:18, etc., by The Moor, 3:70.

N. B.—Very fast and a great show horse.

FEE, \$25.00.

Lissak, bay horse, by Burlingame, dam Helice, dam of Clarion, 2:15½, by Norval, 2:14½.

FEE, \$15.00. Address,

SPRING GARDEN FARM,

Cool Well, P. O., Amherst Co., Va., or

ROBT. TAIT, Norfolk Va.

START - THE - NEW - YEAR - RIGHT

By Purchasing Your Supplies At

J. S. MOORE'S SONS,

Wholesale and Retail..... Grocers and Feed Dealers.

18TH & MAIN STREETS, - RICHMOND, VA.

We quote prices on a few articles in our enormous Holiday Stock.

Look over the list and send us your orders. If you don't see what you want mentioned here, write for prices on it.



Florida Oranges .....	.25 doz.	New Orange Peel	12 1-2 lb.
California Oranges .....	.12 doz.	New Lemon Peel	12 1-2 lb.
Fine Apples .....	.25 pk.	Choice Evaporated Peaches, 9c, or 3 lbs for .....	.25
Large Lemons .....	.12 doz.	Fresh Country Butter .....	.22 lb.
Best French Candy .....	.15 lb.	N. C. Corn Whiskey	\$2.00 gal.
Choice French Candy	12 1-2 lb.	7-year-old Maryland Rye	4.00 gal.
Good French Candy .....	.8 and .10 lb.	Old Crown Rye	3.00 gal.
Plain Mixed Candy .....	.08 lb.	Old Keystone Rye	2.50 gal.
Chocolate Drops .....	.15 lb.	Old Excelsior Rye	2.00 gal.
Fine Buttercup Candy, 5-lb. pails .....	.75 each	Old Capitol Rye	1.50 gal.
Sultana Raisins .....	.10 and 12 1-2 lb.	California Sherry Wine	1.00 gal.
Best New London Layer Raisins .....	.10 lb.	Imported Sherry Wine	3.00 gal.
New, Clean Currants .....	.8 and .10 lb.	Catawba Wine .....	.45 gal.
Best Muscatel Raisins .....	.09 lb.	Jamaica Rum	3.00 gal.
New Seeded Raisins .....	.10 lb.	New England Rum	2.50 gal.
New Figs .....	.08 lb.	Virginia Apple Brandy, 4 years old	3.00 gal.
New Figs, 1-lb. package .....	.10 lb.	Maryland Apple Brandy	2.50 gal.
New Dates, 6 lbs. for .....	.25	B. B. Brandy .....	.45 gal.
New Dates, 1-lb. packages .....	.06	Port Wine	1.00 gal.
New Mixed Nuts .....	.12 lb.	Pure Apple Cider .....	.25 gal.
Best Soft Shelled Almonds .....	.15 lb.	Geneva Gin	2.50 gal.
Best Shelled Almonds .....	.30 lb.	Holland Gin	2.00 gal.
Best Pecans	12 1-2 lb.	Virginia Mountain Whiskey, 4 years old	3.00 gal.
Best Filberts	12 1-2 lb.	Duffy's Malt Whiskey .....	.80 bot.
Best Palm Nuts	12 1-2 lb.	Wilson Whiskey	1.00 bot.
Best English Walnuts .....	.15 lb.	Fulcher Whiskey	1.00 bot.
Best Coconuts .....	.04 each	Buchu Gin	1.00 bot.
New Citron .....	.14 lb.	Paul Jones Whiskey	1.00 bot.

These prices are for cash strictly before goods are delivered. Post-office orders or registered letters must accompany all orders.

WE - WANT - TO - BE - YOUR - GROCER.

A trial order will convince you how easy and cheap it is to "go to market" by mail.

Latest Improved FARM IMPLEMENTS.

HAND POWER CUTTER.

These machines sell at sight. They have heavy fly wheels and make three cuts to each turn of the crank. They will cut hay, straw or fodder, and will cut from $\frac{1}{2}$ to 2 inches. They are shipped K. D., securing the lowest possible freight rates.

LITTLE GIANT CORN SHELLER.

The frame is made of thoroughly dry hard wood. The joints mortised tenoned and bolted. The bearings are bolted on the frame instead of screwed. The iron work is made from the very best material, every piece is carefully inspected before being put on. This machine is high-grade all the way through. It is handsomely painted, striped and varnished.

"SCIENTIFIC FEED MILLS, All Sizes."



The SCIENTIFIC Grinding Mills.

Are unequalled for grinding ear corn, shucks on or off, Corn, Oats, Wheat and all other grains singly or mixed.



ROSS....

Fodder Cutters, Fodder Shredders, Cutters for all purposes, Corn Shellers, Grinding Mills, Horse Powers and Wood Saws.



POWER MILLS in five sizes
2 to 30 horse power

Scientific Sweep Mills in five sizes,
Geared—plain and combined, with
horse-power.

Aspinwall Planters, Potato Sorters
and Cutters.



Wood Saws for long or short wood. Wood or Steel frame.



Kemp's Improved Manure Spreader. Three Sizes.



ELI BALING PRESSES.

58 styles and es. For horse or steam power
Write for prices and catalogues.



STEEL AND IRON ROLLERS
ALL SIZES AND KINDS

**Send for our Catalogues
and Prices on any
Implements you
may need.**

WOOD HARROWS—All sizes.

DISC HARROWS—All sizes.

SPRING TOOTH HARROWS—All
sizes.

ACME HARROWS—All sizes.

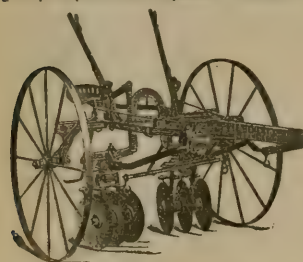
Harrows of all styles kept in stock
at lowest net prices.

One and Two-Horse Planter, Plain
or with Fertilizer Attachment.

Special prices given on Studebaker
and Brown Wagons, Buggies and Carts.

Studebaker Buggies, all styles,
Studebaker Carriages, Studebaker
Carts, Studebaker Runabouts.

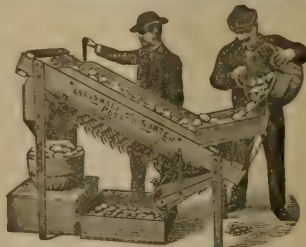
Frick and Aultmen and Taylor En-
gines, Saw Mills and Threshers.



Bement Disc Cultivator,

with 6 or 8 Disc.

Built entirely of steel, steel forgings
and malleable iron. The most simple
and easiest adjusted cultivator on the
market to-day. Write for circulars
and testimonials.



Aspinwall Planters, Potato Sorters
and Cutters.

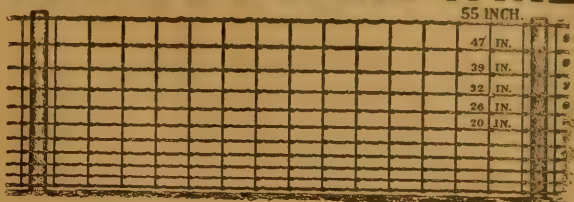
Aspinwall Potato Planter.

Automatic, Accurate and Reliable.
Used by thousands of practical grow-
ers the world over. Over twenty
years on the market. Don't be fooled
by imitations and make-shifts, but
write for attractive illustrated cata-
logue.

HENING & NUCKOLS, Successors to CHAS. E. HUNTER, 1436-38 E. Main St., RICHMOND, VA.

WHY USE DANGEROUS BARB WIRE

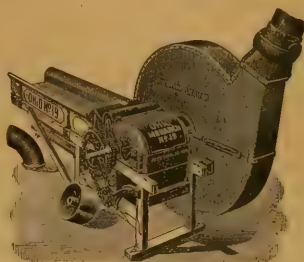
WHEN AN
**ATTRACTIVE WOVEN
WIRE FENCE**
CAN BE BOUGHT AT EVEN
LESS COST?



THE AMERICAN FIELD FENCING Is made in many heights and styles for turning the smallest to the largest animal. Write for special catalogue and prices.

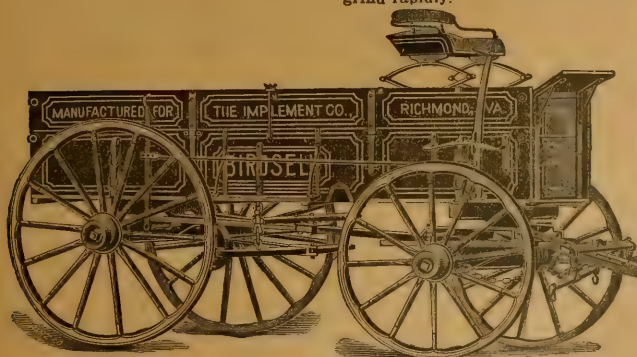


**The Ohio Feed and Ensil-
age Cutters.** Built for Strength and
Rapid Cutting. Furnished with either cutter
or shredder head, or both, and with blower
or elevator when desired. Special catalogue
mailed free.



IDEAL FEED MILLS AND POWER combined grinds all kinds of shell
grain as well as corn and cob. THE POWER attachment is very valuable for
RUNNING WOOD SAWS AND OTHER MACHINERY.

IDEAL DUPLEX FEED MILLS for steam power are very strong and
grind rapidly.



The BIRDSSELL with STEEL SKEINS

Is the highest grade wagons manufactured. See catalogue
and get our prices.

BUGGIES, CARRIAGES, HARNESS, ROBES, WAGONS, CORN SHELLERS, WOOD SAWS, THE FULLEST
STOCK OF AGRICULTURAL IMPLEMENTS.



Triple Geared Feed Mill and
Power Combined.

No. 19. 1-horse ungeared feed mill
grinds corn and cob and shell grain.
Price, \$16.00.

No. 20. 2-horse ungeared feed mill
grinds corn and cob and shell grain.
Price, \$19.00.

Special catalogues on application.

THE IMPLEMENT CO., 1302 and 1304 E. Main St., Richmond, Va.

The Northwestern Mutual Life Insurance Company.

THE NEW POLICY

Of the Northwestern is believed to be the most desirable contract offered by any company, covering almost every contingency that can arise in the future. Absolutely the only policy issued under which the insured is given the option of using the dividends annually in cash or to purchase additional insurance, or of leaving the surplus with the company for accumulation for either ten, fifteen or twenty years, no selection being required until the first annual dividend is due. In some companies the policy is limited to take annual dividend; in others he is offered only the deferred dividend plan. The Northwestern policy contains other unique and valuable features.

—WRITE FOR A PROPOSITION AT YOUR AGE.—

T. ARCHIBALD CARY, General Agent for Virginia and North Carolina,
1201 East Main Street, RICHMOND, VA.

STRONG, HEALTHY AND SLEEK HORSES



Are the inevitable result of giving OWENS & MINOR'S DIXIE CONDITION POWDERS. If you wish fat and smooth Cattle and healthy Milch Cows, give

DIXIE CONDITION POWDERS.

For RHEUMATISM, SPRAINS, STRAINS and all PAINS use

DIXIE NERVE AND BONE LINIMENT—Best on earth for Man or Beast. Large Bottle 25 cts.; everywhere.

OWENS & MINOR DRUG CO., Richmond, Va.

The Trap Has Been Set, But the Farmers "Are on to it."

IN 1904

THEY ARE GOING TO BUY **THE WALTER A. WOOD MACHINES.**



Why? Because

It is the Best Machine made.
It belongs to no combination.
Its Repairs Cost Less.
It Trusts Only in its Superiority.

The Wood Binders, Reapers,
Steel Hay Rakes, Tedders,
Corn Harvesters, Knife
Grinders—the world knows
and the world endorses.

Send for Special Catalogue.

WALTER A. WOOD MOWING and REAPING MACHINE CO., Richmond, Va.

The **STATE BANK OF VIRGINIA**

JOHN S. ELLETT, President. WM. M. HILL, Cashier.
CAPITAL, \$500,000. SURPLUS, \$240,000.
RICHMOND. - - - VIRGINIA

Established 1840.

THE

Sixty-Fifth Year.

Southern Planter

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**Practical and Progressive Agriculture, Horticulture,
Trucking, Live Stock and the Fireside.**

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TRUCKING, LIVE STOCK AND THE FIRESIDE.

Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, March, 1904.

No. 3.

Farm Management.

WORK FOR THE MONTH.

The whole of the Southland is this winter passing through abnormal weather conditions and especially is this so in this and the immediately adjoining States north and south of us. Since the middle of November (now more than three months ago) the ground has been almost continually hard frozen and it has been impossible to run a plow for a day and the end is not yet. At the time of this writing (20th February) the frost is still intense and within the week just past the thermometer has made the lowest record of the month, and of the winter in Middle Virginia. Here in the city of Richmond it has marked 8 degrees (24 degrees of frost) and in the country within a few miles of the city, has been down nearly to zero. The winter in State has been the coldest but one since records were systematically kept. It is also exceptional in that it has been the longest continued cold of which we have any record. Indeed this abnormal coldness has continued ever since last June, January being the eighth month in succession in which the mean average temperature has been below the normal for the State. In another respect also the weather has been abnormal. There has been a deficiency in the rainfall for the past three months in this section, and for more than that period in other sections. Very similar conditions have prevailed through all the Southern States except those bordering on the Gulf, where somewhat more normal weather has been experienced. In our last issue we ventured to hope that we were then nearly at the end of the period of abnormal

weather and that some progress might be made in preparing the land for crops during the month of February. In this we have been disappointed and the work we suggested to be done in February still remains unexecuted. We refer our readers to the February issue for those suggestions and urge that at the very earliest break in the weather they may receive attention. With the use of all the diligence capable of being exercised, and assuming the weather to be fairly normal, there is going to be much difficulty in getting an average acreage of crops planted this year in seasonable time and in well prepared land. The early advent of winter cut off at least a month of the usual fall plowing season and much land usually now only waiting for the drying out of the winter rains to be cultivated and prepared for seeding is yet to plow. This, added to that usually plowed in the spring, is going to make very heavy work for the teams and hands, and we are afraid must necessarily result in many crops seeded in badly prepared land or a reduced area put into crops. Notwithstanding this aspect of existing conditions we would still urge the point we have so often made at this season of the year, that greater attention be paid to the preparation of the land before seeding even though the result be a reduction of the area put into crop. If as a consequence of this abnormal season the result should be the doing of more intensive work the experience will not have been without its advantages. As Professor Roberts in his work on the "Fertility of the land" well says, "Since the soil

and the subsoil contain such stores of potential fertility as analysis has abundantly demonstrated, and since tap-rooted leguminous plants bring to the surface abundant quantities of nitrogen with some mineral matter, and since many fields receive application of farm manure from time to time, some far-reaching cause or causes must be present ever tending to seriously restrict production. It will be found that in this country the principal causes of low yields of farm crops are *imperfect preparation of the land, poor tillage*, and hence a lack of available plant food and insufficient moisture during some portion of the plants life." That this is so has been abundantly demonstrated by numerous experiments made in almost every State, and is further illustrated by results obtained in other countries. The yield of the wheat crop in the different countries of the world is a striking illustration of this fact. In England, where the most intensive system of farming is practised, and where the land receives more preparation for a single crop than is here usually bestowed on three or four crops, the average yield of wheat per acre in 1903 was 31.76 bushels, nearly 32 bushels per acre. In Holland, where careful and good preparation is made, the yield was 28.57 (28½) bushels per acre; in Belgium the yield was 27.70 (27¾) bushels per acre; in New Zealand 26.93 (nearly 27) bushels per acre; in Germany 25.44 (25½) bushels per acre; in Sweden 25.29 (25¼) bushels per acre; in France 18.80 (nearly 19) bushels per acre; in Canada 16.92 (nearly 17) bushels per acre; in the United States 12.76 (12¾) bushels per acre; in Spain 10.80 (nearly 11) bushels per acre; in India 9.95 (nearly 10) bushels per acre; in Russia 8.80 (nearly 9) bushels per acre; in Australia 6.38 (nearly 6½) bushels per acre. These varying yields are almost certain evidence of the degree of preparation bestowed upon the land before the seeding of the crop. We make this assertion with personal knowledge as to the method of preparing the land in a number of the countries named and from information received from the others. What is true of the wheat crop is true of all other crops. The mechanical and physical condition of the soil in which the seed is planted has more bearing upon the yield than any fertilizer that may be applied, yet we are daily in receipt of letters from farmers all over the country asking us to tell them what fertilizer to use and what quantity to apply in order to obtain certain named yields of crops. Upon most of the lands of the parties asking these questions, and indeed upon most of the land of the South, it would

not be possible to secure maximum yields of crops of any kind even though fertilizer of the highest grade was poured out in tons instead of pounds to the acre. What all the land of this country most needs is deep plowing and perfect cultivation so that all the soil is broken into fine particles to the depth of at least 12 to 18 inches, and that this soil so broken shall be filled with decayed vegetable matter (humus). When put into this condition the soil will hold moisture and mainly upon the moisture content of the soil depends its ability to dissolve and make available the plant food naturally contained in it, and that which may be supplied in the form of manure or fertilizer and upon this ability depends the crop yield, as all plant food is taken up by plants in liquid form alone. Without an abundant supply of labor and teams it is impossible to do this full justice to the soil over a large area of land, but a smaller area may be so handled, and if so handled, may be made to yield as much as the larger area would do imperfectly prepared, and the subsequent cultivation and harvesting of the increased crop cost but little if any more than a small yield on the same area. With such a backward season as the present one and with the scarcity of labor, common all over the South, it is essential if profit is to be made, that *intensive* and not *extensive* farming should be done. The first step in this system is deep and thorough preparation of the soil. Let this have attention as soon as the weather will permit. It is too late to turn more than a very little of the subsoil on to the surface now, but it is not too late to break this subsoil with the subsoil plow or a single tooth cultivator so that it may become a reservoir to hold moisture for the use of the crop during the hot season.

For the benefit of the hundreds of new subscribers who have come on to our list since the February issue was mailed we repeat the suggestion as to crops which should be planted at once as the weather has prevented this being done in February. The first to receive attention should be the oat crop. It is now too late to sow Virginia Grey Winter Oats. We would now seed Rust proof Oats for the main crop. Sow not less than two bushels to the acre, better three. A new oat, of which we hear very good reports, is the Burt Oat. It is claimed for it that it will mature in 90 days and thus if planted now will escape damage from the hot weather of the early summer. It is claimed also to be largely rust proof. We would advise a trial of this variety. Except in the Piedmont and Western mountain sections of the

Southern States we would not now advise the seeding of the Canada pea crop. In those sections it should prove valuable as an early forage or hay crop seeded any time during this month. Sow one and a half to two bushels to the acre with a bushel of oats. Sow the peas broadcast and work in with the cultivator so as to give them four or five inches of cover or drill them in and then sow the oats broadcast and cover with the harrow. A good loamy soil is the best for this crop.

Grass and clover seed should be sown this month if it is decided to try to increase the area fall seeded, which is the best and proper time for seeding all grasses and clover in the South. Probably as a consequence of the severe winter it will be found that much of the fall seeded grass and clover has been largely killed. Where this is the case it is not worth while to try to mend the stand by patching but better results will be attained by reseeding the whole field. Mr. Clarke, the most successful hay grower in this country, says that he has never found it profitable to endeavour to improve a stand of grass by partially reseeding. Whilst we cannot say this, as we have on many occasions succeeded in materially improving a stand by a partial reseeding in the spring, yet as a general proposition we think Mr. Clarke is probably right, certainly so where the stand left is only a very poor one. If the fall seeding is only killed in spots we would endeavour to improve the look of the field by reseeding these spots, first breaking the land shallow with a disc or sharp toothed harrow then seeding and cover with the harrow and roll if dry enough. Sow all grass and clover seeds alone and not with a grain crop, and use plenty of seed, say not less than two or three bushels with six or eight pounds of clover seed to the acre. For a meadow on dry sound land sow a mixture of orchard grass, tall meadow oat and red top with the clover. For low wet land sow red top or red top and Italian rye with clover. For a pasture sow a mixture of orchard grass, perennial rye, tall meadow oat, red top, meadow fescue and Virginia blue grass with a mixture of red, alsike and white clover.

Dwarf Essex Rape may be seeded this month as early as possible for a grazing crop for hogs, sheep and young cattle. Sow four or five pounds of seed broadcast and harrow in, or three pounds in drills two feet six inches apart. If sown in drill cultivate two or three times. We have a report from a subscriber just to hand speaking in the highest terms of

this crop as a hog pasture. He says his hogs thrived and kept in good condition upon it. It will only do well during the cool weather. When the hot summer sets in plow the residue of the crop down and sow cow peas.

Plant a field in artichokes for fall and winter feed for the hogs. Prepare the land as for a corn crop and set out the rows three feet apart and drop the sets two feet apart in the rows. Five or six bushels of sets will plant an acre. Cultivate the crop two or three times during growth. The hogs will harvest the tubers for themselves in the fall and winter, or they may be plowed out and stored like Irish potatoes and may be fed with advantage to either hogs or cattle. A yield of from 400 to 600 bushels to the acre is frequently grown on good land, and twice this quantity has been grown.

In this issue will be found an excellent article on forage crops for hogs by Prof. J. S. Newman, of the South Carolina Agricultural College. We invite attention to this. Prof. Newman has had long practical experience in this work and speaks with the authority of one with both a practical and scientific training.

In laying out the land for the crops do not fail to make provision for growing an ample supply of forage crops for green feeding and for winter feed. The experience of this winter ought to be a warning to all farmers to make ample provision for feed for the stock during the winter months. Simply to rely upon the fodder from the corn crop is not sufficient. To make a farm pay it should be well stocked with cattle and these cannot do what they ought and can do towards improving the farm and making money unless they have always plenty to eat. Let them always have feed to convert into manure and the fertilizer bills can be brought into very small compass and much more permanent improvement of the land can be effected than through the use of commercial fertilizers. Whilst the effect of the use of commercial fertilizer is usually exhausted in one year or two at most the effect of an application of farm yard manure can be counted on for many years.

Tobacco plant beds should be burnt and seeded at the first opportunity or the plants will not be ready when they ought to be. Good tobacco is improving in value on the markets. Sun-cured has sold at \$24.50 per hundred. We anticipate a reduction

in area of the tobacco crop in North and South Carolina on account of the high price of cotton. This should give our Virginia growers a chance to make a bigger and more profitable crop. Much is being said as to the importance of co-operative action in raising and selling this crop and endeavours are being made to secure this. Whilst not deprecating such action we do not place the same high value on it as many do. We are of the opinion of Col. J. S. Cunningham, the largest tobacco grower in the world, that the way to secure profit from the tobacco crop is to diversify the crops on the farm and especially to make first all necessary home supplies. The tobacco crop can then be made a surplus product and be held until the market calls for it at a price sufficient to pay the growers. Instead of forcing it on the market to meet the cost of living let the manufacturer have to seek it and then the grower can fix the price.

Land for the cotton crop should be got ready for planting as soon as fit to work but do not attempt to fit it whilst wet. The importance of early planting is now being emphasized in connection with the damage done by the Boll weevil. Practically this is the only remedy which is so far suggested for the weevil with any hope of success. Whilst it is true that we are not yet troubled with this weevil in the Coast States yet there is no telling how soon we may be, as it has annually made great strides northward, and it will be well to be provided against its coming as far as possible. Fertilizers for the cotton crop can with advantage, be applied several weeks before the actual planting of the crop, and be incorporated with the soil whilst fitting it for planting. The maximum quantity of fertilizer that can be generally used with advantage on average cotton land has been concluded to be such an amount as will furnish 50 pounds of phosphoric acid, 15 pounds of potash and 20 pounds of nitrogen to the acre. A fertilizer made up of 1,200 pounds of acid phosphate, 600 pounds of cotton seed meal and 200 pounds of Kainit will supply this need, applied at the rate of 800 pounds to the acre.

FORAGE CROPS FOR HOGS.

Editor Southern Planter:

I have read the *PLANTER* for many years and consider it the best edited paper which comes to my office. Your practice of pointing out unorthodox matter in contributions is highly commendable and adds much to the value of your journal, while it pro-

tests the inexperienced from mis-leading statements.

It is too often the case that the mere tyro in knowledge, practice and experience is the most frequent voluntary contributor to the agricultural press.

This by the way. My object in writing is to commend the letter of Mr. Chas. L. Dewey, of Wilkinson county, Miss., and to suggest some additional hog crops and an economical and convenient movable fence.

For twenty years I have taught in my class-room and practiced in the field the use of "hog crops" peculiarly adapted to the South. One of my graduates, Mr. R. L. Bennett, former director of the Arkansas Experiment Station, profiting by my instruction, has made quite a reputation by demonstrating by experiment at the Newport branch station, Ark., that pork could be raised more cheaply than at the North by a judicious use of these specially adapted hog crops. I have demonstrated the same thing in Alabama and South Carolina. There is no other part of the world in which pork can be grown as cheaply as in the middle belt of the cotton States if proper use is made of the crops especially adapted to being harvested by the hogs.

The following crops are available for a supply throughout the year. There should be a Bermuda pasture, adjacent to the area to be occupied by the other crops, to be used when the ground is too wet to be rooted by the hogs. Bermuda will keep hogs in a healthy growing condition all summer without grain, but both common vetch (*vicia sativa*) and hairy vetch (*vicia villosa*) should be broadcasted over the Bermuda sod in summer to afford late winter and early spring pasturage. These will reseed themselves from year to year.

In addition to these, the following crops are available, viz.: Dwarf Essex rape and crimson clover sown in September. Rye sown with common vetch in September for winter and spring pasturage and then allowed to make seed for late spring use. Winter grazing oats and hairy vetch sown in September to be pastured till 1st March and then allowed to make seed or be cut for hay. Red clover and orchard grass sown in September for spring pasturage and for fall and spring pasturage afterwards. Wheat sown last September to be pastured till middle of February and then allowed to make seed to be harvested by the hogs. Early amber sorghum planted in drills in March for early harvest for hogs. Orange or Lynk's hybrid planted at the same time for later harvest.

Spanish peanuts, chufas and Jerusalem artichokes planted in March, the peanuts to be fed off in early

fall, the artichokes in December, and the chufas later. On land which is capable of producing 15 to 20 bushels of corn, peanuts will produce 75 bushels, artichokes 500 bushels and chufas 200 bushels. Two plantings of sweet potatoes, one early and the other from vine cuttings, preference being given to varieties which produce small roots (hogs will root out large tubers and leave them to waste). Two plantings of cow peas, one of some early variety such as New era, Black or Speckled and another of a later ripening variety. Soja beans planted in early spring, the beans to be allowed to ripen and fall on the ground and become swollen and softened and picked up by the hogs. Lastly a patch of prolific corn on which the fattening hogs are to be turned to harden off the meat for the knife.

HOW TO UTILISE THESE CROPS?

The cable wire fence solves the problem of a movable fence by means of which the crops may be gathered, as desired, as follows:

Trim out of some tough timber a post hole punch, have the point shod with iron, band the top with iron and pass a rod through near the top for convenience in handling. With this the holes for the posts are easily made. Instead of fastening the wire to the posts, spike on a piece of inch plank and fasten the wire to this. When necessary to move the fence the plank is pried from the post and rolled up with the wire to be moved to the next plot to be pastured. The posts being again set at the original distance apart the planks are again nailed to them and the work is finished.

By means of this readily movable fence any part of the field may be partitioned off and the inclosed crop completely harvested without waste. If this plan was generally adopted by the farmers of the South they could not only grow all pork needed on the farm but have a large surplus for sale. The matter is too plain to need argument.

J. S. NEWMAN.

Clemson College, S. C.

SHREDDING AS THE BEST MEANS OF PREPARING CORN AND FODDER FOR FEED IMPORTANCE OF LIVE STOCK.

Editor Southern Planter:

The annual report of the State Board of Agriculture of Virginia and of George Jones Kruger, the much of value to the Virginia agriculturalist and perhaps the very best of the whole series of papers is that on the use and value of our wild birds for the de-

struction of noxious seeds and insects prepared by the Audubon Society. All of the testimony collected for this report, seems to concur in urging the necessity of live stock as the most important factor in successful farming in Virginia. Mr. Beverley's (the President of the Board) experience in cattle raising in Tidewater Virginia is encouraging and sets forth very well the results of his operations in his particular branch of the beef producing industry. But very many of our farmers here in the county of Essex have determined that the veal market is a more profitable source of revenue than that for more matured cattle. They argue that a herd of cows kept solely for producing calves to be sold at six or eight weeks of age, or even two or three months, will be more remunerative to the farmer than if their offspring are all kept until they are three years old, and when the calves will bring \$12 to \$15 each at the above mentioned age, this view may be correct. The real point of importance, however, in the profitable production of live stock is the supply of the best and most economical food.

I have lately been experimenting with the shredding machine and am encouraged to hope much from its agency in the preparation of good food for stock. But while it will improve even injured or slightly mouldy hay by tearing it up and knocking off the dust and mould, it can, of course, not be expected to make good feed of bad material. Therefore the first object should be to harvest and cure the material to be shredded in the best possible manner. Then when this has been done by having corn stover, pea hay and bright oat straw fed in alternate supply to the shredder the feed will be nicely mixed and contain a variety of different constituents. There are, however, several considerations necessary in the use of this shredded food. First, there must be a suitable place for its storage on farms which have not sufficient barn room. One plan is to make rail or pole pens in the fields leaving an opening near the top for the shredder's carrier and to have these pens thatched with straw or fodder to prevent the access of water. Another consideration is the method of feeding the stock. In stables and stalls where mangers and clean racks can be built there is no difficulty. But in the open fields some arrangement of boxes or racks would be necessary both to prevent its being trampled by the cattle or blown away by the wind. Also, it would have to be carried from the storage place to the fields in bags, while, when used in a barn, hoppers or boxes would only be necessary and much more convenient than the bags. A little ingenuity

would soon surmount these difficulties, but there still remains the need for a fair tariff of charge for the use of the shredder and engine, as few farmers could afford to own the whole outfit themselves.

In the West, I believe, the rate of charge is sometimes made by the acre. In other places by the day of so many hours for the use of the machinery. The machine I used was the Keystone and it proved very satisfactory, but if the outfit is to be hired by the farmer I would much prefer the large sized shredder as it not only works faster but has more power to shred large corn stalks and coarse pea vines. There are several sizes and while the smaller ones require less power to drive them, they are not so well adapted to the rough use of shredding coarse material. There seems to be little doubt that the shredder is greatly superior for food manufacture, to the cutting machines which simply cut the material into lengths instead of tearing and splitting it into a fibrous mass as the shredder does.

There seems to be a growing disposition on the part of our farmers to abandon the production of corn and wheat for tobacco or what they call *truck farming*, strangely enough on the ground that the latter pays them better because labor is so scarce and unsatisfactory. Now the tobacco grower and trucker both require much more and better skilled labor than the corn and wheat grower, and while it is indisputable that an acre of several other kinds of crops may yield more revenue than one planted in corn or wheat are the latter not prime necessities and if their cultivation is abandoned how are they to be supplied? If the farmer has labor and capital enough to produce both the "*trucks*" and the cereals this may be well, but the ground upon which the "*trucks*" are advocated is the scarcity of labor and capital and therefore that it is good policy to make most revenue from the acreage in cultivation even when he will have to use the money or a great part of it to buy food for his household and stock, at the most exorbitant rates even if he can get it at all. The annual report before us most wisely advocates the production of *more* corn instead of *less*. Intensify methods and make as much corn on an acre as possible consistent with proper economy (as we have heard of some very large yields in competitive trials costing more in fertilizer and labor than they were worth), but every Virginia farmer should rank the production of corn as the prime factor in agricultural success.

Essex Co., Va.

P. S. HUNTER.

Sending us the foregoing our correspondent comments on the fact that in making up the report, which

almost entirely consists of clippings from agricultural journals and experiment station reports the Commissioner has almost invariably resorted to Northern and Western agricultural journals and reports for his information. He doubts very much whether such sources of information are the best and most reliable for Southern farmers as conditions of climate and crop production are here so different from those existing North and West. We concur in this view. Surely there is some work done by Southern Experiment Stations and by Southern agricultural journals which is worthy of being cited as deserving the attention of Southern farmers. It is poor encouragement for Southern Experiment Stations and Southern agricultural journals to see their work so treated and their efforts to help Southern farmers so slighted. It is, however, a consolatory reflection to ourselves that the farmers themselves do not so regard our own labors as is evidenced by the fact that we now send out more copies of THE SOUTHERN PLANTER every month than the Commissioner of Agriculture of this State sends out every year of his report. —ED.

FARMING AS A BUSINESS.

Editor Southern Planter:

Let it be understood, first, that land in itself is worth nothing. It is valuable only when productive. Anyone laboring under the delusion that land in the Old Dominion is cheap because we don't understand the farming business will part with some of his coin to learn better. If you think that you are buying a farm by paying two, three, five or even twenty dollars an acre for a piece of land with buildings on it, you may find yourself sadly mistaken. The buildings may be worth all you paid for the farm and surely you will enjoy living in this wonderful climate but as to the business end you have probably bought only a *place for a farm*. It is overlooking this fact that has proven the fatal stumbling block in the path of many beginners. Buying a few hundred pounds of fertilizer will not bring back the fertility that cropping for generations and the elements have taken from the soil.

One should no more think of farming soil, empty of plant food, than he would think of starting a store with an empty building. Convenient location to railroads or markets doubles the value of farm land as it would the value of a store site. Hauling is among the heaviest items on a farm. Clearing timber and brush land usually costs as much as clear land can be bought for.

Start farming as you would any other business. Provide the raw material for the soil. Spreading commercial fertilizer with lavish hands is not always successful as it is apt to wash away. The safest and surest road is the one that the SOUTHERN PLANTER has pointed out for these many years: growing leguminous crops, such as cow peas, clover and alfalfa, but to depend upon these agencies alone would take too long. You would be wasting years without remuneration from your farm. Buy no more land than you can afford to stock with plant food and do not buy stock until the farm produces the wherewith to feed it, else the cattle, hogs, horses and sheep will eat the bottom out of your purse. As a business proposition no man can afford to waste his time improving only a few acres. If you haven't the means to handle fifty to a hundred acres, try trucking. A smaller farm will not be a paying proposition.

Next to feeding the soil or perhaps even more important is proper cultivation. If you have settled on your place disk as many acres as you know you will be able to handle. Disk in half-lap. Then plow deeply. If you can, let the subsoiler follow the turning plow. Always harrow immediately after plowing, unless too wet, to prevent the land from drying out. Then disk again until it is warm enough to plant. Unless you are located in the limestone region, spread 20 to 50 bushels of lime to the acre. Lime costs from \$2 per ton to six and seven cents per bushel. Spread also 500 to 1,000 pounds of ground rock phosphate. It costs \$7 to \$8 per ton. Also not less than 200 pounds of potassium chloride (muriate of potash—Ed.) It costs about \$41 per ton. Harrow to a fine tilth and sow or drill thickly to cow peas.

Begin plowing the peas under in July (we would suggest August, as the peas will be then more nearly matured. Turning a crop of peas under when full of sap and growth is apt to sour land in this warm climate—Ed.) and disk the land every week in half-lap until time for fall sowing. If you have used only 20 bushels of lime in the spring, sow now 20 bushels more. Also sow again 500 pounds rock phosphate and some potassium chloride (muriate of potash). The land is now ready for alfalfa or German clover. Devote as much as you can to alfalfa. See February issue of the SOUTHERN PLANTER for instructions how to grow it.

On the land not needed for alfalfa sow German clover. The land or the seed should be infected with bacteria if German clover has never been grown on the field (bacteria can be had from Washington).

Next spring plow under the clover, spread 10 to 15 bushels of lime, 500 pounds of rock phosphate and some potassium. Sow again to cow peas or soja beans. This crop is also to be plowed under.

Your land will now be in fine order for oats if you wish to sow a few acres. But the land intended for corn the following spring should again be sowed to German clover to prevent leaching during winter. As land is rated here by the number of barrels of corn it will produce, it should now yield 10 barrels or fifty bushels if properly cultivated. The time has come then to get some good graded stock and to extend the work of improving to the rest of the farm.

Don't imagine, however, that you can now afford to let your stock of fertility run down. Of course, your alfalfa field will get richer every year and you will have more stable manure but even then it is advisable to keep on growing peas and clover. Land in the South should never be bare of vegetation. When a crop is removed, sow peas or clover immediately according to season, peas for summer, German clover for winter. Always use lime, phosphorous and potassium for these crops.

You have plowed under four crops at a cost of \$5 for seed, with 70 bushels of lime, costing \$4 (in car load lots), 2,500 pounds rock phosphate at \$10 and 800 pounds potassium chloride at \$16. Your work of plowing, seeding, disking, etc., should be worth \$16 per acre. If the land is near market or station your improvements are more valuable than on land less conveniently located. Life will be easier now since the alfalfa field has reduced the acreage under plow. The decaying crops have supplied the soil with humus and the land will produce now as well as land sold for \$100 or more in Illinois and your products will bring from 50 to 100 per cent. more than they would in most Western sections. N.

Hanover Co., Va.

We would advise the seeding of hairy vetch as well as German clover for a winter cover crop. The clover is somewhat uncertain to stand every year whilst the vetch can be relied on.—Ed.

WHAT ALFALFA IS GOOD FOR.

It is excellent for soiling, that is to feed fresh-cut to cows, especially when the pastures are sun-burnt and the flies troublesome. It is fine for horses, after letting it sweat a few hours. It fattens hogs green or as hay. Chickens eat the hay as well as green alfalfa. It makes the very richest and best hay and

is as nutritious as bran and is good for all kinds of stock. Sheep and cattle will fatten on it. It comes early in the spring, can be cut three or four times and stays green late in the fall. It will live 100 years and will make poor farms and poor farmers rich.

HAY SUBSTITUTES FOR STOCK FEEDING.

Editor Southern Planter:

In giving consideration to articles of food for cattle during the winter season, we are apt to expend more thought on the various grains and concentrated feeds, than on the more bulky materials, commonly mentioned as roughage. This is but natural, as the former are much more expensive, but particularly because most farmers expect to raise enough of the coarse articles and supplement with grains and mill feeds as may be necessary.

Occasionally, however, the question of economy in use of hay, corn stover, etc., forces itself upon us, and when this occurs, the best solution of the problem becomes of vital importance.

During the season of 1902, this vicinity was visited with a drought of unusual severity, almost no rain falling from April 1st to middle of September. About two-thirds the usual amount of corn was grown per acre, half of a wheat crop, while of hay we had perhaps, a tenth the usual amount.

When such drought prevails, stock of all kinds fail to increase in size or flesh or to give the flow of milk, that would be the case in ordinary seasons, but worse still, they go into winter quarters in bad condition and with scanty feed of all kinds, to carry them through. One may sell a portion of his stock, if he is so fortunate as to find a market, but as prices that must prevail will be very low, and as the same cattle would probably be needed the following season, the tendency is, to keep as many animals as can be kept alive, trusting to an open winter and good fortune rather than good feed to carry them through.

As we had but little hay, but more wheat straw and a very good amount of corn stover, and particularly as cotton seed hulls were being shipped into our immediate neighborhood, it seemed a good time to study the values of these articles as "hay substitutes." We also had a good amount of silage, and this and the roughage mentioned above was given to the cows producing milk, while to a lot of fourteen spayed heifers, the hay, straw, corn stover and cotton seed hulls were given, as shown in a following table.

HAY SUBSTITUTES FOR DAIRY COWS.

For this work we selected fourteen cows of good constitution and size, (most of them being Holstein grades) and with as nearly like conditions, concern-

ing time of dropping last calf and date of becoming fresh again, as circumstances would allow.

To these cattle we gave each a certain amount of silage, viz.: 34 pounds per day. They also had 12 pounds of grain from a mixture as follows:

- 10 parts of corn and cob meal.
- 4 parts bran.
- 4 parts cotton seed meal.
- 5 parts dark feeding flour. (Commonly called daisy middlings or red dog chop.)
- 2 parts linseed meal (old process).

The above cost almost exactly one cent per pound.

As will be noted, three of the cows were very poor milkers, Nos. 2, 9 and 13, but there was no reason to think they would fall off in flow more rapidly in proportion to amount given, than the others, and they suited better for the work than balance that were available. These were the most common stock of the lot and have since been slaughtered for beef.

The trial was continued for eleven weeks, and it would be natural and it was expected that in that time, all animals would fall off somewhat in flow of milk, and the amount of such reduction would be an indication of relative value of food consumed. Beside the silage and grain given, each cow was allowed all the roughage she would consume and of kinds as indicated in tables.

Nos. 1 and 2, dry straw, mixed with the silage before feeding.

Nos. 3 and 4, dry corn stover.

Nos. 5 and 6, wet corn stover.

Nos. 7 and 8, dry straw (not mixed as with Nos. 1 and 2.)

Nos. 9 and 10, wet straw.

Nos. 11 and 12, dry hulls.

Nos. 13 and 14, wet hulls.

TABLE I.

Number.	Yield Milk per Day, Pounds.	Yield Milk per Day at Close of Experiment—Lbs.	Gain or Loss—Lbs.	AVERAGE LBS. CONSUMED PER WEEK.					
				Straw Mixed with Silage.	Dry Stover.	Wet Stover.	Dry Straw.	Wet Straw.	
1	138.8	144.5	+5.7	104.2					
2	97.8	69.6	-28.2	99.1					
3	247.4	216.1	-31.3		100.2				
4	185.4	195.6	+10.2		95.6				
5	175.3	190.	+14.7			93.6			
6	183.7	188.6	+4.9			97.7			
7	215.3	168.2	-47.				53.3		
8	201.	142.5	-58.5				31.7		
9	82.9	52.8	-30.1					20.	
10	135.7	134.4	-1.3					36.5	
11	169.8	154.6	-15.2						28.7
12	222.3	173.8	-48.5						35.8
13	103.3	81.5	-21.8						
14	158.3	99.7	-58.6						93.4
									103.3

A portion of the cows were fed dry and others wet, roughage, to see if the moisture would add to pala-

tability and consequent greater consumption and with resultant better yield of milk.

Cows given a moderate ration of grain and silage, could not be expected to eat these coarse materials, with any great relish, and if by any manipulation we can make them more palatable, we may use them to better advantage than would otherwise be possible.

If we consider first, cows Nos. 3, 4, 5 and 6, the former pair given dry and the latter wet, stover, the amount consumed was slightly more with the cows given the dry article, if we judge by the averages as given in the table. In comparing the pairs, however the table is not absolutely accurate. After the stover was once wet (and the same applies with equal force to the other articles) it is impossible to re-dry it and leave exactly the same amount of moisture it had before the wetting, hence any food that was left, had to be weighed back as nearly correct as possible, but with an unavoidable element of error. Understanding this, the amount of stover consumed was practically the same in each case. Three out of four of these cows made a gain, rather than a loss in the flow, No. 3 alone giving a reduced yield by 31.3 pounds, as indicated by the minus sign, and this becomes rather more of note as only one other cow (No. 1) in the entire list, made a gain in milk production. If we now glance at Nos. 7, 8, 9 and 10, the former pair given dry and the others wet wheat straw, we find again that more of the former than of the latter, was eaten. Of the whole four, only one would eat as much as five pounds of straw per day, going without roughage (except the silage) rather than eat more of the kind offered. This being the case it is not to be wondered at, that each cow decreased in flow of milk.

When we turn to the last lot of four animals, we find a condition very unlike the others, seems to exist, but in reality the large amount of hulls eaten by Nos. 13 and 14 is not due alone to the moistened condition.

After vainly attempting for two weeks to get the cows to eat the moistened hulls we found it would be impossible to get them to consume any appreciable amount. We also found Nos. 11 and 12 did not relish them, at times leaving in the manger almost the entire amount that had been given. For these reasons we not only moistened the hulls given Nos. 13 and 14, but we mixed with them a portion of their grain ration, the dry grain given them being reduced by the amount placed on the hulls. By this means they consumed over three times as many hulls as did the two preceding. To find the exact

amount of these moistened and grain covered hulls that was consumed, was extremely difficult and utmost care was necessary, that only such amount should be given as would be eaten.

Realizing that wheat straw would not be relished by any of the cows, we concluded to not only moisten it for one lot, but to set aside a third pair, giving them straw mixed with their silage and feeding it after it had been mixed for a short time, to give it a chance of getting the flavor of the silage. In this we were not disappointed, for both cows ate a very considerable amount of the straw and the yield of milk was second only to the stover fed lot. The straw could not be easily separated from the silage, by the cow, and the whole was eaten with evident relish.

Noting the conditions under which these two cows seemed to thrive, we, in February, began feeding a considerable number in our herd (about twenty cows) with silage and straw mixed. Our method of handling it was, in the afternoon, just before dusk, we placed in a room convenient, alternate layers of silage and cut straw. This was allowed to remain until next morning, when the whole mass would be quite warm and the straw soft. It was fed to the cows during the day and another lot prepared. By this means we used a large amount of straw and obviated the necessity for buying hay.

D. O. NOURSE, *Agriculturist*.

Experiment Station, Blacksburg, Va.

(To be continued next month.)



We had intended to publish a picture of Prof. Nourse in our January issue but failed to receive same in time. We have now pleasure in presenting same in connection with this article. Prof. Nourse has been the *Agriculturist* at Blacksburg for many years and we have published a number of valuable contributions from him.—Ed.

When corresponding with advertisers mention
THE SOUTHERN PLANTER.

ENQUIRER'S COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Tomato Growing—Potato (Irish).

Please give a full treatise on the best commercial fertilizer suitable for the different crops. What composes the best fertilizer for tomatoes? I fear that the tomato subject is too much neglected in Virginia. Do you not know that Roanoke and Botetourt counties produce more tomatoes than any other two counties in the United States? What is needed for tomatoes is something that will act from the very first and help to retain moisture during the drouths that generally occur while tomatoes are maturing. A fertilizer that has a tendency to hasten the maturity too rapidly is worse than no fertilizer at all. Will not the editor and some of our well experienced growers give us a full treatise on the best mode and plans for cultivating this delicious vegetable "by the fields full?" Another question, What is the largest *smooth* potato grown in the South?

Roanoke Co., Va.

E. E. ENGLEMAN.

We will endeavour to write an article for this issue on tomato growing. If not found in this issue it shall appear in April. Meanwhile sow the seed in boxes or in gentle hot beds so that the plants may be growing ready for transplanting to grow stocky plants for setting out in the fields in May. We are aware that the two counties named make large crops of tomatoes but we doubt whether they grow more than some of the Maryland counties. They are also now largely grown in Tidewater Virginia.

By "Smooth" potatoes we presume you to mean Irish potatoes. Burbank, Peach Blow and Carmen No. 3 are generally reputed to grow the largest sized tubers. In writing on the several crops in each issue we always state the particular plant food for which the crop calls, but never advise any particular brand of mixed fertilizer. We do not advise the use of ready mixed fertilizers at all.—Ed.

Improving Land—Seeding to Grass and Clover.

We have 60 acres of medium grade land (30 acres plowed in fall) which we are trying to improve. It is our idea to sow sapling clover and a few timothy and red top seed. How early in spring would you advise sowing, and would you sow any small grain? If so, what? Our main object is to improve the soil and get grass.

A. G. P.

Culpeper Co., Va.

Unless this land is really fertile and rich we would not advise attempting to get into grass and clover at

once by spring seeding. The fall is the proper time to sow grass and clover in the South. We would advise you to prepare the land well by deep plowing and cultivation this spring. Apply 300 pounds of acid phosphate to the acre and then sow cow peas, one bushel to the acre. Cut this crop for hay in August, leaving a long stubble. Then cut up this stubble with a disc harrow and apply 300 pounds of bone meal to the acre and sow two bushels of grass seed (a mixture of orchard grass, tall meadow oat grass and red top in equal parts, and eight pounds of red or sapling clover to the acre. Cover with a light harrow and if dry enough roll. The grass seeds should be sown not later than September. Sow no grain with the grass seeds and you will then probably succeed in getting a good stand of grass.—Ed.

Alfalfa—Fig Trees—Bermuda Grass.

1. Please give me some information in regard to alfalfa. I sowed some last spring about 1st of April, and I sowed some last October. I find I only have a small stand on each piece of land. Would you advise me to run a disc over these lots and put in more seed? The first piece sowed in spring has right much grass and clover in it. Last fall I mowed it twice and let it lay on the ground for a cover.

2. I have also a nice lot of fig bushes on the farm, and they grow every year, and always have a heavy foliage of leaves, and look very thrifty, but never bear any fruit at all. Can you explain the cause of this? Is there anything that can be done to make them bear fruit?

3. I have also some grape vines that don't bear. They may be too old.

4. Is there any way to get rid of wire grass in a garden?

R. P. TALLAFERRO.

Gloucester Co., Va.

1. Probably the reason why the alfalfa has not made a good stand is the absence of the necessary alfalfa bacteria in the soil. When the land is dry enough run a disc harrow over it and sow 10 or 15 pounds more seed to the acre, first infecting this seed with alfalfa bacteria which you can procure from the Department of Agriculture, Washington, or sowing over the field a bushel or two per acre of soil procured from a field having already a good stand of alfalfa. Until the land is thoroughly infected with the bacteria the alfalfa will not grow luxuriantly.

2. As to the fig trees we have had several similar complaints, but are unable to suggest a remedy. Write the Experiment Station, Raleigh, N. C., for their Bulletin on fig growing. Possibly this will give you information which will help you.

3. It is not worth while to work with the old vines.

Dig them up and work the land well and set out new young vines.

4. The way to get rid of the wire grass in a garden is to dig it out. It is possible if you can spare the garden for a year to smother the grass out with a heavy growth of cow peas.—Ed.

Tomato Blight—Winter Cabbage.

1. Would you kindly tell me the best remedy for blight on tomatoes, the same having nearly killed my tomato vines the two last years just about the time the tomatoes began to ripen. Is it not better not to put any manure near the roots when setting out plants?

2. Would you also state the best time to sow late cabbage seed, and the best time to set out plants for winter use?

3. What is the best remedy for worms or other insects on cabbage?

4. What is the best remedy for chicken cholera?

Warwick Co., Va.

SUBSCRIBER.

1. Spraying with Bordeaux Mixture is the best known remedy for tomato blight but is not always a specific. You should change the location of your tomato plot as the land where they have blighted for two years is no doubt infested with the spores of the disease and will give it to any plants set out in the same ground.

2. The seed for winter cabbage plants should not be sowed until July and the plants should then be pushed on by plenty of manure and cultivation so as to have them ready to set out in August and September.

3. In the spray calendar in this issue you will find the proper remedies for cabbage worms.

4. We know of no certain remedy for chicken cholera. It is a germ disease and when once a flock has become infested with the germs which are conveyed from one fowl to another by the droppings nothing can certainly be relied on to stop it. A little carbolic acid in the drinking water and the disinfection of the runs and houses with solution of copperas is about the best that can be done.—Ed.

Specking of Tobacco.

1. Do tobacco stalks sneek tobacco put on land in the spring and fallowed?

2. From what cause does tobacco speck?

3. I had a good lot of tobacco last year, as I thought, but when I classed it I found that it was specked with white specks.

G. T. ALLEN.

Lunenburg Co., Va.

The cause of tobacco specking is obscure. It is be-

lieved to be a fungoid disease and that the germs are carried on the stalks and damaged leaves left in the field and that from these the soil or the manure used becomes infected and carries the disease to the next crop. It is not a wise practise to fallow the stalks in wherever specking has injured the crop. Better to burn them and all trash from the crop.—Ed.

Grass Seeding.

I have a piece of land that I sowed to grass in the early part of October last. I purchased my seed of T. W. Wood & Sons, Mixture No. 3. About one-sixth of the seed came up. Will you tell me what will be best for me to do. Must I break my land afresh this spring and sow to oats and grass, or grass alone, or will it answer to harrow the land thoroughly and reseed, or will it be safe to wait and see if the seed which has lain dormant will come up this spring, as we had very dry weather last fall and winter? The land is steep and subject to wash.

Surry Co., N. C.

E. J. MILLER.

We would wait and see if the seed which did not come up in the fall would yet germinate. We think probably much of it will do so, seeing the dry condition of the land and the late period at which it was sown.—Ed.

Sweet Potato Growing.

1. When must I bed potatoes for growing slips, and when should the slips be set out?

2. How many bushels of potatoes should I bed to get slips sufficient to set four acres?

3. Would you advise fertilizing? If so, what kind and how much per acre? The land is a light sandy soil, and is very productive.

4. Which is the best variety?

5. Please send specifications for a house that will hold eight hundred bushels.

GEO. W. SHIPP.

Catawba Co., N. C.

1. In your section the potato slips may be set out in the field from May to July. It usually takes about five weeks to grow the slips from the time of bedding the tubers. This will give you an idea when to bed the tubers according to when you want to plant them in the field.

2. Medium sized potatoes will grow from 2,000 to 3,000 slips per bushel at two or three drawings.

3. If your land is very productive it is not likely that it will be wise to fertilize it as this would produce excessive vine growth and reduce the crop of tubers.

4. If the potatoes are intended for a Northern market a dry mealy variety like the Yellow Nansemond should be grown. If for a Southern market a

soft sugary potato like a Yam should be grown.

5. We will deal with the question of a storage house for sweet potatoes later in the season. —Ed.

Strawberries—Raspberries.

Should strawberries be cultivated in the spring when planted in the fall? Will raspberries bear fruit the summer following fall planting? C. M. BASS.

Yes. Cultivate the strawberries as soon as the ground is dry enough and thus encourage growth. Raspberries will not bear much fruit the first season. They may carry a small crop, but it is better that they should not be encouraged to do so but rather be encouraged to grow and make wood for next season's bearing.—Ed.

Irish Potato Growing.

With a suitable season this year, I want to raise a large crop of Irish potatoes, and wish to get the largest possible yield per acre. My land is in a fine state of cultivation, having had stable manure broadcast over it four years in succession, and have had peas on it twice during the time. What I wish to know is, what kind of fertilizer shall I use to get the biggest yield (give formula), or do you think it best to buy Peruvian guano (I see it advertised in your columns), and add potash, etc., to it? If so, please state what amount of potash and ammonia, if any, to get a maximum crop. COSMO BENSON.

Rockingham Co., N. C.

A crop of 300 bushels of Irish potatoes to the acre removes from the soil about 55 pounds of nitrogen, 25 pounds of phosphoric acid and 85 pounds of potash. To supply this a fertilizer made up of 100 pounds of nitrate of soda, 200 pounds cotton seed meal, 500 pounds of bone tankage, 400 pounds of acid phosphate and 200 pounds of muriate of potash may be used. This will give an excess of the requirements of a 300 bushel crop and with land in the condition in which you describe yours should enable you to make the maximum yield of which your land is capable if the season be a suitable one. In applying the above mix well with soil before planting the sets as it is a very concentrated mixture. We think that the above mixture will probably be more likely to make a maximum crop than would the use of Peruvian Guano supplemented with potash.—Ed.

Whitewash for Fruit Trees—Wormy Apples.

1. Will you kindly furnish recipe for whitewash to prevent early swelling of fruit buds?

2. What proportion of Bordeaux mixture and ar-

senic shall I use to obtain "worm free" apples, and when is best time to use it?

Charlotte Co., Va. MRS. CHARLES GUTHRIE.

1. Make the lime wash for fruit trees just as you would for lime washing a building. Place a few lime-stones in a tub and pour water on them and let them slake and fall, then thin down the mixture with more water until thin enough to spray or apply with a brush.

2. Mix 4 ounces of Paris green with 50 gallons of Bordeaux mixture. Spray as soon as the blossoms have fallen and whilst the young fruits are standing upright so that the arsenic of the "green" may settle in the calyx of the fruit as that is the place where the worm enters the fruit.—Ed.

Preserving Skins of Animals—Horses Rubbing Tails—Vetch Seed.

1. Please inform me how to preserve the skins of animals so the hair will not fall out.

2. What causes horses to rub the roots of their tails? If it is worms, what will relieve them?

3. Is it best to procure vetch seed from a seedsman or a store? E. Y. P.

Campbell Co., Va.

1. The skins of animals may be preserved by sprinkling them with a mixture of two parts saltpeter and one part of alum. Pulverize finely and sprinkle all over the flesh side of the skin and fold the skin flesh to flesh and roll up and let it lie a day or two, then with a dull knife remove the meat and fat if any on the skin and hang to dry. When about half dry commence to rub and work to make the skin supple and continue at intervals until dry.

2. The itching of the root of the tail may be caused by lice on the skin or arise from pin worms in the bowels. If from lice wash the itching part with a solution of tobacco made by boiling tobacco in water. If from pin worms an injection into the rectum of an infusion of quassia chips, half a pound to a gallon of water once or twice daily will give relief. Give also a physic ball of Barbadoes aloes 1 ounce.

3. Buy the vetch seed from a seedsman.—Ed.

Ginseng.

Will you kindly give me some information in next month's PLANTER regarding the culture of ginseng? and whether it requires light or stiff soil?

Hanover Co., Va.

H. J. ROSEBACH.

We do not think that it is at all desirable for the growing of ginseng to be undertaken as a business by our Southern farmers as we doubt much its profitability in the long run. It is a slow business to

begin with as the roots take two or three years to become large enough for market except for plants to set out new beds and when all the new beds which have been raised from seed or roots come into producing marketable roots the price of the article will no doubt fall largely. The only people in the world who have any use for Ginseng are the Chinese and whether when they become more enlightened they will want it remains to be seen. The best soil for Ginseng is a good loam, not too light and not too heavy. The best aspect for a bed is a Northern one and shade and moisture is most desirable, indeed essential to success. The soil should be full of vegetable matter like the forest lands in which the roots grow wild. It should be free from stones and other obstructions so that the roots may grow straight and be deep and without a hard clay subsoil.—Ed.

Draining Land.

Could I make a successful drain with thin pine poles, then sawdust before putting back the soil?

Princess Anne Co., Va.

P. H. STONE.

Yes, it is possible to make a drain with three pine poles which will be effective for some time. Unless, however, the poles are kept continuously under water they will rot in a few years and the drain will cease to act. Do not use saw dust on the poles. Fill in first the clay from the bottom of the drain and pack this tight on the poles. The more perfectly the tiles or other drain medium are embedded in clay the better the drain will draw and the wider the area it will clear from water. For a perfect and permanent system of drainage tiles should always be used.—Ed.

Dorset Sheep.

1. Please give description of the Dorset sheep, and how they compare with other breeds as to hardness, size, quality and quantity of wool, and quality of mutton.

2. Also give description of large Yorkshire hogs, claimed, I believe, to be the coming bacon hog of the country, giving size, color, hardness and prolificness, as compared to other breeds.

W. L. RICHARDS.

Fauquier Co., Va.

1. The Dorset sheep is a white medium sized horned sheep with a loose medium quality fleece. The great characteristic of the Dorset is its prolificacy and capability of producing lambs early in the winter to supply the demand for early lamb. In this they excel all other breeds. Indeed they may be said to be all the year round producers of lambs. These lambs they feed well and quickly as they are great milkers. The breed has proved itself thoroughly hardy and

easily acclimated in the South. They are not the best of mutton sheep as the Downs excel them in this respect, still they will make good marketable mutton.

2. The large Yorkshire hogs are a white breed of pigs noted as bacon hogs. They are long deep bodied hogs and the sows are excellent breeders, bringing large litters and milking well. The only drawback to the breed for the South is their white skins, which are easily sunburnt, and then they are apt to become covered with a thick scurf. They should have plenty of shade when kept in the South. A black hog, like a black man, stands the hot Southern sun the best. Apart from this we think the Yorkshire hogs most desirable as they make the bacon the market calls for at the present time.—Ed.

Corn for Hog Feeding—Cow Peas, Chufas and Rape for Hog Pastures.

I want to fatten some hogs for the August or first September market, on green feed as much as possible.

1. What is the earliest corn I can plant to feed in the green state before the ears get too hard for table use?

2. Would it pay to plant sugar corn for this purpose, or is there an early variety of corn that I could get that would serve me for this purposes by the first of July?

3. Will it pay to plant Spanish chufas for hogs, to graze hogs on in fall?

4. Is there an early cow pea that would come in time for hogs this fall by plowing up a wheat stubble after harvest the last of June?

5. Which variety of the cow pea is the quickest to mature?

6. Could I sow rape on this land for pasture for hogs this fall, say in June?

7. I see the Spanish chufas or nut grass highly spoken of by seedsmen as a hog pasture, but have not seen anything of them in the farm papers.

Albemarle Co., Va.

A NEW ENQUIRER.

In this issue you will find a very interesting and instructive article on the subject of pasturage for hogs from Prof. Newman, of South Carolina, which will no doubt help you.

1. Southern White Snowflake, Blount's Prolific, Leaming and Golden Dent are about the earliest corns grown.

2. In many sections the sugar corn, like Adam's early and Trucker's Favorite are planted when for some reason a special early corn is required, but their yield is small compared with the field varieties, and it is doubtful whether it would pay to grow them for hog feed. We know of no corn that will give you good ears by 1st July unless we have a very early

spring and the land is warm enough to plant corn in the beginning of April, which is rarely the case.

3. Chufas are largely used for hog pasture in the States bordering on the Gulf, but have not been much tried in this State. You might experiment with the crop, but do not plant largely until tested in your section.

4. The New Era Cow Pea is the earliest variety and grows and yields well here. Red Ripper is also an early variety. Both these varieties will mature planted after the wheat crop is harvested. The Black Cow Pea is the next quickest to mature and will usually do so planted in June.

5. See reply to 4.

6. Rape should not be sown for fall pasturage before August or September.

7. Chufas are grown for hog feed in the Gulf States, but we do not know that they have been tried in this State. We are not much impressed with their value from what we have learned from one or two of our friends in South Carolina.—Ed.

Tomato Rot—Potato Bugs—Nitrate of Soda for Irish Potatoes, Etc.—Gad Fly.

1. What will prevent tomatoes from decaying before maturing?

2. Is Bordeaux mixture the best preparation to use as an exterminator of potato bugs, also a small bug that is very destructive to young cucumber plants?

3. For a prolific crop of sweet and Irish potatoes would you advise to use nitrate of soda?

4. The *Gastrophilus equi* (gad fly) which annoys the horse very much during the summer months, depositing its eggs upon the horse's knee, shoulder, or fore legs. After the eggs have hatched, are the larva more or less apt to produce some disease of the horse? If so, what, and is it internal or external?

Bristol, Va.—Tenn.

J. KENT KINZER.

1. The best thing to use is Bordeaux mixture, but this is not a certain preventive. In some years and on some land nothing will check the disease. Land on which tomatoes have developed this disease ought not again to be used for growing them for several years and all vines and decayed fruits should be destroyed by burning. The land also should be given a dressing of lime. It is a fungoid disease of obscure origin and the remedy for or prevention of which has not yet been discovered.

2. The best exterminator of potato bugs is Paris green applied either as a spray or in powder form. The bugs infesting cucumbers and melons cannot be easily controlled or kept from doing injury. Many

large growers protect the young plants by covering them with muslin stretched on frames and this is most certain in its effect. Others dust the plants with bone meal when moist with dew.

3. An excess of nitrogen is not advisable for the Irish or sweet potato crop. It causes them to run to vine instead of tubers. A fertilizer having 5 or 6 per cent. of ammonia is rich enough in this element for Irish potatoes, whilst for sweet potatoes half this quantity is enough. Nitrate of soda may be used to supply this in part. We would not advise more than 75 pounds of nitrate of soda to the acre for Irish potatoes and half this quantity for sweet ones.

4. This fly, the common gad fly, is the progenitor of the bot worm which infests the stomach of most horses. The eggs or larva are taken into the mouth of the horse from the legs by the horse biting at the places where the eggs are laid. These then pass on into the stomach and there attach themselves to the lining of the stomach by the mouth. They so remain until fully grown and then let go and pass out in the dung. It is no use trying to dislodge them, as no medicine has any effect upon them. They do not cause any injury or damage to the horse.—Ed.

Profitable Sheep and Hogs—Fertilizer for Peanuts.

1. What breed of sheep is most profitable for fleece and early lambs?

2. What breed of hogs would you advise for pork raising?

3. I am a new subscriber to the SOUTHERN PLANTER, seeing you do not favor the use of commercial fertilizer, which is extensively used here, what formula, or what ingredients, and in what proportion per acre should be used for Virginia peanuts here in Tidewater Virginia?

Surry Co., Va.

O. M. COCKES.

1. This depends much on the climate and character of the country where they are to be kept. The heavy long woolled breeds are not adapted to be kept in a hot climate, where heavy drenching rains are common or where the land is semi-mountainous. They do not do well, as a rule, in the South. For this State and those immediately adjoining we think any of the Down breeds or the Dorsets the best.

2. Either Berkshires or Large Yorkshires. The Essex is also a good hog for this purpose, and some speak highly of the Duroc Jerseys.

3. A crop of 60 bushels of peanuts to the acre contains in nuts and berries 84 pounds of nitrogen, 14 pounds of phosphoric acid, 32 pounds of potash, and 46 pounds of lime. Part of this nitrogen is obtained from the atmosphere, the peanut being a

legume. A proper fertilizer for supplying sufficient nitrogen, phosphoric acid and potash can be made up of 300 pounds of cotton seed meal, 80 pounds of acid phosphate, and 24 pounds of kainit. Lime should be applied to the land growing peanuts every two or three years, say at the rate of 20 bushels to the acre.—Ed.

Breeding Hares—Johnson Grass—Grasses.

1. Do you think it would be a good investment to fence in, say 10 acres of land with poultry wire close enough to prevent a rabbit from getting through and devote it to raising the old field hare? Do you know of a farm that is raising them at present? How many young does one female have a year?

2. Do you think that Johnson grass will do well as far north as Amherst county?

3. Will it do well sown in spring with oats? Will it grow on thinner land than timothy?

4. Please mention some good hay grasses that will take better on thin land than timothy. H. J. Amherst Co., Va.

1. We are unable to give any reliable advice on breeding "old field hares." We have never heard of any one carrying on this business. If you want to breed hares the Belgian hare is the one to use. Whilst the "old field" hare only produces two young ones at a time and does not often have more than one or two litters in the year, the Belgian hare produces from two to six at a litter and breeds all the year round.

2. Yes, Johnson grass will grow in Amherst county, Va.

3. As it is really a sorghum and not a grass spring is the proper time to sow it. It should be sown alone and not with grain. Sow from a bushel to a bushel and a half of seed per acre. It will grow on any fairly fertile land but the better the land the better the yield.

4. If the land be dry orchard grass and tall meadow oat grass should succeed. On damp or wet land sow red top.—Ed.

Potash—Fertilizer for Cotton—Clover in Cotton.

Please tell me how much potash clay land contains to the acre, and tell me how much fertilizer is needed per acre to grow from 1½ to 3 bales to the acre, and how to apply it? I saw last year that you advised to sow clover in cotton at the last working. I did so, and it came up pretty well, but it did not stand.

Camden Co., N. C.

J. B. ELLIOTT.

All clay land has usually a sufficient supply of potash in it for all ordinary crops. How much it contains can only be determined by analysis. For crops

like tobacco and Irish potatoes which are great consumers of potash, it is, however, usually necessary to supplement the natural supply by some form of potash salts. In cotton growing it is also well to add some potash in the form of Kainit as this has the effect of checking rust in the crop. It is impossible for any one to say what quantity of fertilizer to apply per acre in order to produce a given quantity of cotton or any other crop, as this depends more on the mechanical and physical condition of the soil than the quantity of plant food actually present in the soil. Nearly all the cotton lands of the South need vegetable matter more than they need fertilizer in order to become thoroughly productive. Grow cow peas and clover on them and turn them under until the lands are rich in vegetable matter and then a small quantity of fertilizer will make a large yield of cotton. In our article, Work for the Month, you will find advice as to the quantity and kind of fertilizer to use on the cotton crop. Try the clover (crimson) in the cotton again. It probably died out from climatic causes.—Ed.

Sheep Troughs and Racks—Preventing Sheep Jumping—Castrating Lambs.

Will you please answer the following or get some of your readers to do so:

1. Give plans for feeding troughs and racks for sheep that are convenient, prevent waste and keep the lambs and sheep out of the feed?

2. Some device (if any) to prevent sheep from jumping fences of ordinary height.

3. The easiest way to castrate lambs, at what time the best. Is it safe to cut testicles and bag at the same time?

B. L. AMBLER.

Amherst Co., Va.

1. The best sheep rack and trough we have ever seen is one we used regularly. It is a combination of rack and trough together. The rack is a V-shaped one with the bottom set in the middle of a trough about a foot wide and six inches deep. This trough is set on four or six legs raising it about nine inches from the ground. The space in the trough on each side of the bottom of the rack is so narrow that the lambs cannot well get into it, and especially so as the staves of the rack project over it on account of the V form of the rack. The top of the V should have a lid on it to keep out the rain. This should be hung on hinges so that it can be lifted easily to fill the rack with hay.

2. In the North of England sheep on the Moors are often coupled together in pairs by collars round their necks to prevent them jumping fences.

3. The easiest way to castrate lambs is to cut off the bag and testicles together. This should be done as early as possible after the testicles are well formed in the bag. It is not safe to castrate in this way after the testicles are large. Then the bag must be slit and the testicles be withdrawn.—Ed.

Crimson Clover.

The first of October last I had some crimson clover sowed on pea stubble, having prepared the ground with a disc harrow. I secured a fine stand which only lasted a few weeks and before cold weather arrived it had all disappeared and left the ground barren. Please advise what you think the trouble was. There were some flies to be seen on the land. Do you think they destroyed it? Is there any chance for it to come out in the spring? A SUBSCRIBER.

Hamilton Co., Tenn.

Climatic causes no doubt caused the death of the clover. This is one of the weaknesses of this valuable crop, that it is very apt to be killed soon after germination by hot dry weather, or by a sudden cold spell before it has made good root hold. It is not at all likely to come out again this spring. The only way to certainly secure a stand of crimson clover is to commence sowing in August and seed part only of the lot and then to seed other part later in the month and in September and October. If the first is killed out before October reseed.—Ed.

Pedigree Seed Corn.

I am contemplating buying some pedigreed seed corn this spring, what variety is best for general purposes, and where should I buy to get corn suited to this climate, being unable to find it here? Would it be advisable to plant any considerable quantity of corn grown in different soil and climate?

Russell Co., Va.

SUBSCRIBER.

We are not conversant with the varieties of corn which have been made the subject of breeding in the West and therefore cannot say what you should ask for. We noticed recently that a Corn Breeding Society has been established in Maryland. We think that you would be likely to do better with a variety from that State than from the West. Write the Director of the Maryland Experiment Station, College Park, Md., for information as to the varieties being bred and where you can procure some. We would not advise the planting of more than an experimental plot of any variety.—Ed.

Strawberry Plants.

Please tell us how to propagate strawberry plants

and how many can I expect from one dozen plants? Suppose I buy six different varieties, one dozen plants each, this spring and set them out, how many plants can I get from the 72, one year hence?

Appomattox Co., Va.

J. W. GILLIAM.

If you buy and set out 72 plants of different varieties this spring, setting them out in rows two feet apart and one foot apart in the rows, you will next spring have plants enough to set an acre of land, or possibly more, if the season be a normal one. Each plant will make a number of runners varying from two to half a dozen and on each runner you will have two or three plants.—Ed.

Tobacco and Cow Peas—Pine Tags.

1. Why is it that tobacco does not do well after cow peas?

2. Have pine beards any value as a fertilizer?

Brunswick Co., Va.

A. C. B.

1. This is a question to which we can give no definite reply. Investigation has not yet settled the cause, but it is recognized by tobacco growers as an established fact. In many cases it may be from the peas being turned under too green and causing a souring of the land. In other cases it may be because of the peas being great consumers of the mineral fertilizers, especially potash, which is very essential to tobacco, and thus unbalancing the plant food content of the soil.

2. Pine tags have little true fertilizing value yet they often appear to help a crop. This arises from their mechanical effect on the soil and when used as a mulch from the shade given.—Ed.

Lice on Musk Melons—Tobacco Dust.

1. Will you please tell me some remedy to destroy plant lice on musk melons?

2. Is tobacco dust a good insecticide with a little sulphur? If so, how much of it would you apply?

Madison Co., Ill.

SUBSCRIBER.

1. Spray with kerosene emulsion.

2. Tobacco dust alone is a good insecticide. The sulphur will not help it. Dust the plants freely, it will never hurt them.—Ed.

Larva for Name.

Find enclosed larva. Give name, and whether destructive. Found on apple tree.

Charles City Co., Va.

NEDVIDEK BROS.

We are unable to identify the larva. It is always difficult to give the name of insects from the larval forms, as there are so many of them so much alike. Look out for the insect itself when it hatches out and send it and we will endeavor to name it.—Ed.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The continuance of severe wintery weather during nearly the whole of February has prevented the doing of most of the work which we suggested for that month in our last issue. Even in the Tidewater sections of this State and in Eastern North Carolina the weather has been too severe for any material progress to have been made with the planting of crops. The crowding of the work usually done in the late fall and midwinter months into the spring months is going to cause serious inconvenience and in all probability a curtailment of crops. It will also, we fear, be found that considerable injury has been done to fall planted cabbage, kale and spinach crops. Those who had cabbage plants in cold frames or where they could be protected with mats or brush will find these plants very useful now to fill in where the fall planted ones have been killed. This work should be done as soon as the ground is dry enough to work. When setting out these plants freshen up the soil by lifting and breaking it with a fork before setting the new plants.

The planting of the Irish potato and English pea crop should have the very earliest attention possible. It is getting late even now for English peas, as they suffer immediately the hot weather sets in. In our last issue we wrote fully on the preparation for and fertilizing of the land for these crops and refer our readers to that issue. For the benefit of the hundreds of new subscribers who have come onto our list since that issue was mailed we will repeat what we said as to the fertilizer to be used with the Irish potato crop. Mix

300 pounds of nitrate of soda.

600 pounds of cotton seed meal or fish scrap.

800 pounds of acid phosphate (12 per cent.).

300 pounds of muriate of potash,

to make a ton and apply at the rate of from 500 to 1,000 pounds to the acre. In our replies to enquirers will be found a formula for an even more concentrated fertilizer for this crop than the above. In using these two mixtures it should be the rule to mix them very completely with the soil before dropping the sets or they may cause injury to the sprouts.

Although late do not be tempted to work land until it is dry enough to leave the plow and the other implements clean. Land worked too wet is worse than land not worked at all until late. Instead of

working too wet land get out the compost and farm yard manure and mix the mineral fertilizers, phosphate and potash, with them and in this way economize time.

As soon as the land is dry enough cultivate the fall planted cabbages and thus encourage them to grow and as soon as growth has started give them a dressing of 100 pounds of nitrate of soda to the acre. This will stimulate them and enable the roots to get hold of the fertility in the land.

Make up hot beds for striking sweet potato slips and raising tomato plants, egg plants, peppers and early canteloupes. The beds should be made up of good fresh horse manure which should be well forked over and put up in a solid mass the size of the bed required. Let lay for a few days until nicely heated and then turn over and make up again. After this let alone until heated up again and the heat has begun to fall and then cover with three or four inches of good woods mould or rich soil. Then cover with sash or mats and the bed is ready for use. If the heat is slow in coming up water the bed so as to make it fairly damp and it will soon heat up. Too much water, however, will check heating. Tomato seed should be sown in the fore part of this month to secure plants for early setting and a later seeding should be made for the main crop.

Lettuce in frames should have plenty of air in all mild weather and the plants in the open ground be encouraged to grow by cultivation. Spring salads of all kinds should be sown in small plots in sheltered places for the earliest crop. April is soon enough to sow for main crop.

Strawberry and other small fruit beds should have cultivation as soon as the ground is dry enough to work, to encourage growth, and if the strawberries are not looking thrifty should have a mixture of nitrate of soda, potash and acid phosphate sown on the bed when the plants are dry and be worked in. Use 100 pounds of nitrate of soda 150 pounds of muriate of potash and 300 pounds of acid phosphate to the acre.

The pruning of grape vines and all other fruit trees and shrubs should be completed as soon as possible before the sap commences to run. Tie up vines and canes to stakes or trellises when the pruning is completed.

FORMULA FOR SPRAY MIXTURES.

COPPER SULFATE SOLUTION.

Copper Sulfate (Bluestone).....1 pound
Water15 gallons

Dissolve the copper sulfate in a bucket of hot water, as it dissolves more quickly in hot water; and dilute to the desired quantity. *Use wooden or earthen vessels for copper sulfate solution.* This solution is to be used on dormant plants, before the leaves have expanded.

BORDEAUX MIXTURE.

Copper Sulfate4 pounds
Unslaked Lime6 pounds
Water40 gallons

Dissolve the copper sulfate as mentioned above, slake the lime in a bucket of water and dilute with several gallons of water and strain through a coarse cloth to free the mixture of the small lumps. They interfere with the free flow of the mixture through the spray nozzles. Mix the two solutions together and add water to make 40 gallons. Use this for rots, molds, mildews and all fungus diseases. For potato blight add two pounds more of copper sulfate.

A combined fungicide and insecticide for biting insects may be made by adding 4 ounces of either Paris Green or London Purple to the above.

AMMONIACAL COPPER CARBONATE SOLUTION.

Copper Carbonate6 ounces
AmmoniaAbout 3 pints
Water50 gallons

Dissolve the copper carbonate in ammonia in a closed wooden or earthen vessel and add to it the required quantity of water when ready to apply. As ammonia varies in strength, some care is necessary to use no more than is needed to dissolve the copper carbonate. This preparation is used for the same purpose as Bordeaux, but is intended to be used only when fruit is nearly grown, as Bordeaux sometimes affects the skin of ripening fruit.

KEROSENE EMULSION.

Hard Soap $\frac{1}{2}$ pound
Boiling Water1 gallon
Kerosene2 gallons

Use "soft water" (preferably cistern water.) Dissolve the soap in the boiling water; add the kerosene and churn violently until the mixture becomes like buttermilk—not less than five or ten minutes. Dilute with water ten to fifteen times before using.

For sucking insects. For scale insects use strong emulsion. For plant lice, mealy bugs, red spider,

etc., the weaker solution may be used. Soft bodied insects like the cabbage worm may be destroyed with this solution.

Special machines are now on the market that mix the water and kerosene directly, and at most any proportion desired, and are recommended wherever scale insects are to be destroyed. When buds are dormant use a mixture of kerosene one part, water three parts.

LIME, SULPHUR AND SALT MIXTURE.

Lime, 30 pounds (unslaked), Sulphur (flowers) 30 pounds, salt 10 pounds, water 100 gallons. Put four or five gallons of hot water in an iron kettle (20 gallons capacity), add 15 pounds lime. Stir with wooden paddle so as to spread it about, then as soon as in full boiling from slaking add 15 pounds sulphur and mix briskly with lime, adding boiling water as needed to bring the whole mass into a thick paste, then add water enough to make 10 or 12 gallons and boil for 30 to 40 minutes. Add the salt when the paste is diluted. When the wash is cooked strain and dilute to 100 gallons.

PARIS GREEN.

Paris Green1 pound
Water175 to 200 gallons

When this mixture is used by itself add one pound of quick lime to prevent it injuring the foliage. See under Bordeaux mixture.

Paris Green is sometimes mixed with flour and dusted over the plants when dew is on, in proportion of one pound of poison to ten pounds of flour.

LONDON PURPLE.

Use in the same way and in the same proportions as Paris Green, but use more lime to neutralize its caustic properties. It is best not to use this on the peach at ll.

PERSIAN INSECT POWDER.

Fresh Powder1 ounce
Water2 gallons

Spray on plants for soft bodied insects. The powder is frequently dusted on plants while the dew is on. The material is not poisonous to man, hence can be used in dwelling house to kill house flies and mosquitoes. For such cases, first close all doors and windows and dust the room well with the powder (usually at night) and leave it so for several hours. It is a good idea to burn a spoonful or two on hot embers so that the fumes may fill the room. Be sure that the powder is fresh, because when old it often fails to kill.

SPRAY CALENDAR FOR 1904.

PLANT.	DISEASE.	What to Apply	First Application.	Second Application.	Third Application.	Fourth Application.	Fifth Application.
APPLE.....	Bitter Rot. Scab Coaling Moth. San Jose Scale.	Ammoniacal Copper Carbonate. Bordeaux Mixture. Paris Green.	First appearance of rot. When buds swell. Just after fall of blossom.	14 days later. Just before blossoms open. 8 to 10 days later.	14 days later. After blossoms have fallen. Destroy all windfall fruit.	Repeat as necessary 8 to 10 days later. Pick off wormy fruit.	Repeat if necessary Repeat if necessary
BEAN.....	Anthraxnose.	Lime Sulphur and Salt Mixture. Bordeaux Mixture.	Apply before the buds start to grow. When plants are 2 to 3 inches high.	10 to 14 days later.	Repeat as needed.	Soak seeds 1 to 2 hours, double strength Copper Carbamate solution before planting.	Double strength Kerosene Emulsion.
BLACKBERRY.....	Fusils.	Copper Sulfate.	Before buds open.	Bordeaux after blossoms have fallen.	Repeat as needed.	Dig up and burn all badly diseased plants.	heads have started
CABBAGE.....	Worm. Cabbage Worm. Harlequin Bug. Melon Aphid. Beetles.	Paris Green. Copper Sulfate and Bordeaux Mixture. Bordeaux Mixture. Paris Green.	When worms appear. When first leaves appear. When first leaves appear.	Repeat as needed. Repeat in 10 days.	Paris Green should be applied after the first leaves appear.	not be applied after the first leaves appear.	heads have started
CANTALOUPE.....	Anthracnose. Black Rot Downy and Powdery Mildews. Leaf Folder.	Copper Sulfate and Bordeaux Mixture. Bordeaux Mixture. Paris Green.	Before buds open. Before buds open. Before blossoming.	Bordeaux before blossoming. When buds are fully open. After fruit has set.	10 to 14 days later. After fruit has set. Repeat 2d when fruit sets.	Repeat if necessary. Repeat if necessary. Repeat if necessary.	Repeat if necessary. Repeat if necessary. Repeat if necessary.
CHERRY.....	Black Rot Downy and Powdery Mildews. Leaf Folder.	Copper Sulfate and Bordeaux Mixture. Bordeaux Mixture. Paris Green.	Before buds open. Before buds open. Before blossoming.	Bordeaux before blossoming. When buds are fully open. After fruit has set.	10 to 14 days later. After fruit has set. Repeat 2d when fruit sets.	Repeat if necessary. Repeat if necessary. Repeat if necessary.	Repeat if necessary. Repeat if necessary. Repeat if necessary.
CUCURBIT.....	Black Rot Downy and Powdery Mildews. Leaf Folder.	Copper Sulfate and Bordeaux Mixture. Bordeaux Mixture. Paris Green.	Before buds open. Before buds open. Before blossoming.	Bordeaux before blossoming. When buds are fully open. After fruit has set.	10 to 14 days later. After fruit has set. Repeat 2d when fruit sets.	Repeat if necessary. Repeat if necessary. Repeat if necessary.	Repeat if necessary. Repeat if necessary. Repeat if necessary.
PEACH.....	Canker Worm. Curculio. San Jose Scale. Blight.	Weak Paris Green. Paris Green. See note under Key. Promptly remove and burn all diseased limbs.	First appearance. Before blossoming. Before blossoming. Before blossoming.	Repeat as needed. When fruit has set. When fruit has set. When fruit has set.	The loose cotton are gathered and destroyed all windfalls every few days. Cut off 15 inches below affected parts.	Repeat if necessary. Repeat if necessary. Repeat if necessary.	Repeat if necessary. Repeat if necessary. Repeat if necessary.
POTATO.....	Colorado Beetle. Paris Green.	Paris Green.	When plants are 3 to 4 inches high.	Repeat as needed.	Repeat as needed.	Repeat if necessary.	Repeat if necessary.
POTATO, SWEET.....	Black Rot. Rust and Mildew. Blight.	Grow slips from clean healthy potatoes. To get clean potatoes.	When disease appears first 10 to 14 days later.	Repeat as needed.	Repeat as needed.	Repeat if necessary.	Repeat if necessary.
STRAWBERRY.....	Black Rot. Rust and Mildew. Blight.	Grow slips from clean healthy potatoes. To get clean potatoes.	When disease appears first 10 to 14 days later.	Repeat as needed.	Repeat as needed.	Repeat if necessary.	Repeat if necessary.
TOMATO.....	Fruit Rot.	Bordeaux Mixture.	When fruit is set.	10 to 14 days later.	Repeat if necessary.	Repeat if necessary.	Repeat if necessary.

The efficiency of spraying will depend upon the time and thoroughness of the applications and not as a cure. All sources of infection, such as diseased wood, diseased leaves and Keep this Calendar for reference during the year. You may need to refer to it.



MARK HANNA STRAWBERRY.

The accompanying illustration is a single cluster of Mark Hanna strawberry originated by Mark T. Thompson, of Rio Vista, Va., ten years ago. It is a seedling of Bubach No. 5 which it resembles, but is much more productive and claimed by some to be larger, finer and of better quality, very long season and holds over much better than most varieties. It resists drought much better than most varieties. Taking it altogether it promises to be one of the most promising varieties introduced for many years. The accompanying illustration shows a plant with 95 fully developed berries and Mr. Thompson thinks it the largest cluster of berries ever produced by one plant. In productiveness it is simply wonderful.

We can recommend the above berry as we have seen it fruiting and tasted it, and we congratulate Mr. Thompson upon his success in producing such a valuable variety.

GRAFTING AND BUDDING THE TOPS OF ORCHARD TREES.

Editor Southern Planter:

On most farms there are found unprofitable fruit trees growing. Also in many orchards unprofitable varieties have been planted. The farmer hesitates to cut them down because they are thrifty looking trees. Often times to cut them down would make an orchard look scattering. Such trees may often be changed to profitable ones by top working. The farmer often thinks of doing this but in the rush of spring work it is put off too late. Make preparations now for such work. Cut the scions now and put them away in a cool place to hold the buds back till the foliage begins to push out on the trees then commence grafting. Often times the farmer does not know exactly how to do this work and hesitates to undertake it. It is the simplest kind of thing. The desire for experimenting and finding out the secrets nature has in store for us is often most pronounced in the young. Let the boy on the farm undertake this work after he understands it thoroughly. Tell him that a whole miniature orchard of various varieties can be produced on one tree. The fruit will be like that grown on the tree from which the scion is taken and not like that grown upon the tree upon which the grafting is

A Bloomington, Ill., paper says: "Central Illinois farmers in totalizing their profits for the year just closed say that the growth of sweet corn for the canning factories has been unusually profitable, and as much as \$60 has been realized in some cases for the product of a single acre, while in addition a quantity of valuable forage was left for the dairy cows."

done. Explain all this carefully to the young man to thoroughly arouse his interest.

HOW TO TOP GRAFT.

I will explain and illustrate only two methods. One known as whip and tongue graft, and the other as crown graft. The tongue graft method is best used on limbs less than one half inch in diameter and the crown method is best used on limbs from one-half inch in diameter up to two and a half inches in diameter.

The greatest point to observe closely in either grafting or budding is that of having the cambium (inner bark) of both stock and scion fit evenly together. If they do not fit water and air will get in and induce decay.

For crown grafting, cut off the limbs with a fine tooth saw, then split the crown with a knife or wedge. Sharpen the scion to fit evenly. Open the stock with some sharp wedges and insert the scions. It is best to have the last or upper buds on the scions project from the outside so that the limbs will branch out and not crowd each other so much. Cover the crown carefully with good grafting wax to keep out the water.

Perhaps waxed bands of cloth are best to tie a whip and tongue graft, since the scions are easily misplaced. This method is often used by nursery men and, in top working, it is best Crown Grafting. used on small side branches.

Some care should be exercised in the arrangement of these grafts on the tree, as the tops might be very uneven. Not all the tops should be cut off at once even in small orchard trees. One to three years should be taken to change the entire top. Care should be taken in removing water sprouts which will greatly injure the graft later on, if left alone.

A good grafting wax for out door work is made by melting together one pound of tallow, two pounds of beeswax, and four pounds of English resin. Stir well and then pour the mixture into cold water, then pull it till it becomes somewhat white. Then it may be rolled in oiled paper and be kept some time. Oiled cloth is made by cutting strips of the desired width and making a ball of it and soak it in the wax while it is hot.

SPRING BUDDING.

In all the text books on horticulture that I have seen where budding is described it is recommended that this operation

be performed in the summer when the sap is active and the "bark slips." In a State further South we have had budding done successfully in January by what might be called the attachment method. I believe the method would be successful if used in this State early in the spring. If so, it would prove very useful, especially to nurserymen when used on all stock that failed to



Budding.

"take" during the summer. These buds could be forced out in the summer just the same as those that were put in last summer and the nurserymen would not lose any stock. Let the nurserymen try it this spring and report on it in the *PLANTER*. The farmer may also try it on his fruit trees to make limbs grow out where they may be wanted.

The method simply consists in cutting a piece of bark with some wood attached, down about one inch on the tree, leaving it still attached at the lower end. Then use the knife transversely to cut off about two-thirds of this slip. Cut off a bud with some wood attached to fit this cut place. Insert the lower end of the bud between this slip and the stock, as shown in the drawing. Tie it tightly with raffia or soft corn shuck. The tie may be cut loose after the bud has become securely attached. The limb may then be cut off above the bud in order to force the bud out.

In all cases, care should be taken to select leaf buds and not fruit buds.

R. H. PRICE.

Montgomery county, Va.

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Live Stock and Dairy.

THE HANDLING OF EWES IN MARCH.

Editor Southern Planter:

More mistakes are made in the management of a ewe flock in Virginia in the month of March than at any other time of the year. It is a most trying period and the man who gets his ewes through this month without loss may well feel that he is fortunate.

In Virginia the lambs have all come by the first of March. Many of them are two months old and are pulling on their mothers as only such chaps can pull. Grass has not come yet or it is just beginning to show green and is sappy, watery, and weak in nourishment. The ewes are crazy for it and will work themselves to death to get their fill of it only to be poorly satisfied with nourishment. The man who has been feeding his ewes on dry feed alone can hear them gritting their teeth when he walks among them, can see some of them looking pale and haggard, can see the wool of his flock looking harsh and dry, can observe the best ewes falling off in their milk and many not feeding their lambs at all. He knows full well that his sheep are not doing right and he longs for the grass to come to save his sheep. He will be very lucky, if he gets through without loss of life, for before the month is gone he will find ewes with swellings under the jaw and others that have "gone off feed," while some have dwindled in strength, until they can barely follow the flock.

Have I overdrawn the picture? I have seen too many such flocks to be mistaken in my observations. I will say that I have described conditions that are to be found in a number of the Virginia flocks. Some flocks are different. In these the lambs are fat, the ewes strong and healthy. There is abundance of milk; the wool is smooth and lustrous; the skin is as pink as a cherry, there is no gritting of teeth or other symptoms of indigestion.

What makes the difference? I beg to tell how I think this last flock was managed through the winter and how the owner has planned to carry it through March.

These ewes were given a good grain ration through the winter, beginning with one small feed a day before Christmas. The grain ration was first corn and oats, but in a few weeks the corn is dropped and oats substituted. When the lambs begin to come in January the ewes are getting a ration of oats and bran in equal parts by weight twice a day with a little lin-

seed meal once a day. They have had clover hay or cow pea hay freely from the time the grass began to fail. Bright corn fodder is put before them every morning now and as soon as the winter gets under way one good feed of roots is given them. Nothing is better than Swedish turnips (rutabagas). When the lambs get about two weeks old the oats in the grain diet is increased to about two-thirds and the roots are increased. A field of fall rye furnished grazing in the fall and through December. The failing of this was indication of time for root feeding. Either this rye or wheat is to furnish grazing through March, and even in February in the milder portions of the State the ewes could pick up plenty of feed on the wheat fields.

Now that March has arrived the flock is found in prime condition and there is nothing to fear. The flock is now kept on the rye and wheat most of the day, but the oats and bran are fed morning and evening and the roots in diminishing quantity. By the middle of the month the roots may be abandoned and the grain ration, reduced gradually, may by the end of the month be about two-thirds of the maximum. The grass has started by this time. If one is so fortunate as to have orchard grass, there will be good grazing by the first of April in most parts of Virginia. I have never known sheep to hurt wheat by grazing it as late as April first. In fact, it seems to make it stool out more and make a more even growth. It might cut down the amount of straw, but the wheat yield would not be affected, unless improved. Since this is true, it is best to keep sheep from the grass pastures, as the grass during March is short and not nutritious as described above. During March the flock should have constant access to pure, clean water and it is best to keep salt where the sheep can get it as they need it. If you intend to feed worm powders to your flock, now is the time to begin. If you have suffered from parasites in the past, such as stomach worms and lung worms, it would be well to give the ewes a good dose of benzine or gasoline about the end of the month, being sure to get full directions if you don't know how to do it.

This kind of management of a flock will bring it up to spring grazing in fine shape and there will be no worrying over sick ewes, poor lambs, and unprofitable sheep. It is largely a matter of feed.

Maxwellton, W. Va.

H. B. ARBUCKLE.

THE SOUTHERN CATTLE MAN'S OPPORTUNITY.

Editor Southern Planter:

Those who have kept in touch with the great cattle business of the United States will have observed a note of discouragement running through the writings and talks of our Northern and Western friends for the past year and especially during the latter months of the year. The ranges and feed lots have thrown onto an already overstocked market thousands upon thousands of cattle good, bad and indifferent. The principal reasons for this suicidal policy have been a gradual increase of land values making the cost of beef growing through the corn belt greater, the rise in the price of corn the staple feeding product of that section, the high price of farm labor, and the natural tendency of mankind to follow the crowd like a flock of sheep. Whatever the reason the fact is a glutted market, with continually falling prices and this in the face of the farther fact of there being—according to our most reliable information—a less number of cattle produced in proportion to population than several years ago when prices were much higher than to-day. In the writer's opinion only one result can follow this foolish scramble to knock out all present profits in cattle feeding and that is a short supply of good cattle in the near future, and a consequent stiff rise in prices.

To-day the Southeast is not figured upon at all as a cattle producing section. Now, how could the farmers of our section display better judgment than to go quietly to work breeding really first class cattle and be ready for the good prices that are sure to be paid for top cattle within the next two years. We have—or can have if we will—as good pastures as the Northern and Western stockmen can boast, can grow corn and other grain as cheaply as can our neighbors, and have right at our doors cotton seed meal, one of the very best feeds for beef production. The truth is corn silage and cotton seed meal are a hard combination to beat in the feeding of beef cattle. And then we can grow the best rough feed of any section of the country. Cow peas, soja beans, vetch, crimson clover, etc., are ours for the planting. With all our natural advantages it would seem to the writer that there must be something wrong with us if we do not avail ourselves of this opportunity offered, and prepare ourselves to put on the market thousands of car loads of first class cattle when the market calls for them, which it is sure to do by the time we can get them ready. And in this connection I want to insist that the cattle must be A1 if we are to reap the reward that should be ours. No warmed up scrub

steers will do. We must have good, well bred beef cattle, 20 to 30 months of age, that will weigh from 1,200 to 1,500 pounds.

Brother farmers, is not this matter worthy of our attention along with the cotton and tobacco?

Rockingham Co., N. C.

A. L. FRENCH.

HARDINESS OF JERSEYS.

Editor Southern Planter:

I note in a recent issue of your paper a letter from Mr. Gardner on the subject of "The Large versus the Small Dairy Cow." He says, "The Jersey list reads like an obituary column, etc.," giving a list of casualties among this portion of the herd which would certainly indicate that the Wisconsin station had been unfortunate enough to select for this test a lot of thoroughly unsound cattle. It is, therefore, no wonder that they made no better showing in butter production.

My own experience with Jerseys has been very different from this. About 1890 I began the formation of a herd with five registered cows and heifers and a few high grades. They were moved to my farm some fifty miles from here in 1897 and reached the maximum number which the farm will carry (twenty milk cows with their growing calves) in 1901. Since then we have had eight or ten cows for sale each year.

During this time the only sickness which has caused any cessation of milk production has been one case of garget which recovered with the loss of one quarter and subsequently produced 28 pounds of milk daily from the remaining quarters, and one cow who had two or three attacks of something like erysipelas when, as a matter of precaution, the milk was thrown away. Calves have all been carried full time and only one was still born. Two heifers died of hoven from something obtained in the woods in the late fall. Some ten or twelve calves died of indigestion, nearly all during the incumbency of a careless and indolent dairyman.

There are now on the place twenty cows in milk and twenty-seven heifers of various ages with not one unthrifty animal in the lot. Male calves are sold for veal.

During the time they have been on the farm they have had six different men in charge, all common farm hands who had served as helpers and been promoted.

They run out all summer and, during the winter spend the day in the yard when the weather is good, being housed at night and on rough days. They have no hay over them in the barn, nothing between them and the corrugated iron roof. They now have long coats of hair like the pictures we see of Highland

cattle, but are making over five pounds of butter per week as an average, though the majority of them calved last summer and there has been only one calf since the middle of November.

As will be seen from the above, they have had neither coddling nor even what might be called skilled attention but simply average farm conditions. There is certainly no lack of hardiness here, and as many other Jersey herds are fully their equals the conclusion naturally follows that the animals mentioned by Mr. Gardner were in no condition to enter a competitive or any other kind of a test.

Alleghany Co., Md. B. S. RANDOLPH.

IN-BREEDING.

A subscriber from King William county, Va., sends us an extract from the Baltimore American's "Practical Farm Notes" in which the writer strongly condemns the crossing of pure breeds of cattle and urges the importance of always sticking to one breed if good results are to be assured and then goes on to advocate in-breeding in the following terms:

"Wherein could a betterment be made in our breeding better and purer types of cattle, especially dairy cattle?"

Stop the promiscuous breeding of all kinds and breeds of cattle in one herd. Select some breed best adapted to the conditions which exist, and get a sire of the best dairy breeding possible, and use this same sire for at least three generations. The first heifers will be 50 per cent. of the desired blood and influence. Breed them back to their own sire. The second generation will be 75 per cent. of dairy influence, and 75 per cent. of the relationship with their mixed influences and weakness will have disappeared, "crossed out," and if the second generation is again bred in line, the needed blood will be as 87 to 100. Then another sire of the same family blood, and as far removed from kinship as possible, is secured for the fourth generation, and the herd is freshened with new blood and not weakened. If the first sire is of strong vitality, there is not a reason in the world but that health, vigor and strong influence will be begotten each time—far more possible than it would be to introduce a new sire each generation, and with him introduce a new line of family faults and frailties, not to mention new heredities; while in the other case it would be a matter of confirming and making stronger the lines of the strongest and most desirable characteristics."

Our correspondent asks us to give our views on these breeding problems. We are heartily with the

writer on the subject of crossing different breeds. In this issue we have written a note on this subject to an article on crossing breeds of hogs in which we have expressed our views and refer our readers to it. On the inbreeding problem we are entirely opposed to the writer of the article. We believe that such inbreeding as is advised is bound to result sooner or later in unsound stock and often in barren stock. In the human race intermarriage in families has proved a prolific source of insanity, disease and sterility. Amongst cattle, the Jersey breed is the one in which this practice has been most persistently followed, and Jerseys are the one breed of cattle in which tuberculosis is most prevalent. It is true that inbreeding has resulted in the Jerseys in intensifying the power to produce milk and butter records, but we believe this has been wholly at the expense of the vitality and robustness of the breed. Breed to pure animals always, but use strains of blood not akin if strength and vitality is to be maintained. Our correspondent asks us also to explain about "wolves" in cattle. These so-called "wolves"—warbles is the correct name—are the grubs of a fly which lays its egg on the hair of the cattle and from thence the eggs are licked and pass into the stomach where they are transformed into grubs which make their way to the backs, usually about the loins of the cattle, and there remain burrowed under the skin until full grown, when they pass out through a small hole which they make through the hide and drop onto the ground, where after a time they hatch as flies to repeat their life history. The warbles do no harm to the health of the cattle but seriously damage the value of the hides. The grubs should be squeezed out of the small holes in the hides before they naturally pass out, and be killed by being crushed, and in this way the number of flies can be materially reduced each year. They may be killed by applying turpentine or kerosene in or on the opening in the hide without squeezing them out, but we prefer to squeeze them out and end their life history. The cattle should be examined in February and March and the work of destruction be then done. If deferred later many of the grubs will have escaped.

GRAZING HOGS.

We have repeatedly been asked recently how many hogs an acre of land will carry and have had to confess our inability to answer this question satisfactorily as it entirely depends on the size of the hogs, the

season and the crops grown. Discussing this question in a recent issue of the *Breeders' Gazette* Prof. Soule thus replies:

As to the number of hogs one can maintain on the land, that depends a good deal on the crops grown and on the season. Sometimes an acre of land will carry as many as ten good-sized hogs. In another season it may not carry more than five or six hogs. Then the number of hogs that an acre of land will carry depends very much on their size when put on the land. If put on shortly after weaning in the early spring fifteen or twenty hogs might be carried to the acre from 30 to 60 days, but if weighing from 100 to 150 pounds probably not more than six hogs could be carried for the same time. It is impossible for the writer to state except in the most general terms the number of hogs he can carry on this land. If he had 30 acres divided into five-acre lots, as in plan No. 2, there is no good reason why he should not be able to graze from 150 to 200 hogs, especially if he feeds them a small grain supplement and gives them the benefit of the fifteen-acre Bermuda lot and the large 85-acre wood-lot.

While plan No. 2 involves considerable fencing it presents the most satisfactory arrangement of the land to secure a good succession of crops. It is also desirable where hogs are to be grazed to erect permanent fences. Hurdles are all right except it takes too much time to move them about and when the hogs get a good size they are more likely to break them down. A good strong fence around the grazing lot in the beginning is the best policy.

A great variety of crops may be grown on these lots. For example, Nos. 1 and 2 might be seeded to winter oats this fall, No. 1 to be grazed through the late fall and winter and No. 2 when the crop begins to head out next spring. Nos. 3 and 4 could be planted to sorghum as early as possible in the spring. Nos. 5 and 6 might be given to two varieties of cow peas, say Warren's Extra Early and Whippoorwill, Black or Clay. Nos. 7 and 8 could be devoted to soy beans, using an early-maturing and a late-maturing variety. One or more of the lots might be put in sweet potatoes, peanuts or chufas. Cow peas, soy beans and peanuts are the three most satisfactory fall-grazing crops for hogs and possibly the easiest to cultivate and most likely to produce a good yield.

Of course where one desires to produce a good firm pork and to properly fatten the animals it is well to feed a little corn along throughout the year. A small amount, however, will be sufficient. From 10 to 15 bushels per animal with the grazing crops suggested should make good hogs weighing from 250 to 300 pounds at the end of six to eight months' grazing and feeding as suggested. There is no reason why every planter in the South should not grow all the

pork he needs and it will be a splendid thing when the practice becomes more general.

CROSS BREEDING OF PURE BRED HOGS.

Editor Southern Planter:

I would like to have your opinion in regard to the crossing of these two famous breeds of swine—the Berkshire and the Poland-China.

I have in many instances read, and also have been told by noted stock men that any cross of pure-bred animals would result in injury to the good qualities of both breeds.

But, nevertheless, I believe the said cross to be a desirable one, having last year raised a very fine hog of this cross. The cross produces an animal in many respects similar to the Berkshire.

It has the Berkshire's broad back and shoulders and the larger frame of the Poland-China.

Its ears are flopped a little but not quite so much as those of the Poland-China, thereby making an animal of a better appearance than the pure bred of either breed, and I think a more prolific one.

However, the one experiment is not sufficient proof to make firm my belief.

I have two pure bred Poland-China sows and also a registered Berkshire boar and sow. They are all about the same age. I will cross the Berkshire boar on Poland-China sows and also breed the Berkshire sow to him, trying to make them farrow as near the same time as possible.

As the result of this experiment I will know exactly which will be the most profitable, and later will report the result of the experiment through the columns of this most valuable journal.

If you consider this of enough interest I would be glad if you would devote a little space in the *PLANTER* to its discussion, and if any of your readers have experimented with the said cross I will be glad to hear from them.

G. E. A.

Amelia Co., Va.

Whilst it is possible that crosses of different pure bred animals may at times result satisfactorily yet the business is as a rule disappointing. We are entirely opposed to the practice as no man following such a method of breeding can ever tell what the result is going to be. It may be a good formed animal of good feeding or breeding character or it may be the rankest "scrub" ever bred. We have seen both results from one litter of pigs, and the like results with cattle and sheep. The more highly bred the parents and the longer their pedigrees in one line of breeding and therefore the more prepotent their blood the greater the chances are that the progeny

will be unsatisfactory. The long time which it takes to establish the type of a new breed which can be relied on to reproduce itself certainly is abundant evidence of the uncertainty which results from the interbreeding of pure bred animals of any kind. In the conflict which necessarily arises between the propensity of the different blood lines the outcome is just as likely to be a reversion to an original type as to be a desirable animal. Select the breed you like the best and then interbreed the best lines of blood in that particular breed, and you may rely on getting a good animal, though some lines of blood in all breeds seem to "nick" better than others. Or if you are unable to indulge in the luxury of keeping all pure bred animals keep a pure bred male and breed him onto the best type of grades and you will certainly improve them as the sire's prepotent blood will assert itself.—Ed.

BREEDING AND FEEDING PROPERLY WILL PRODUCE GOOD COLTS.

Editor Southern Planter:

Now that the spring of the year is approaching, and the time for selecting a stallion to breed to is here, see that you select a good one. The first thing to consider is the breeding of the stallion. Do not waste time and money breeding to "scrub" stallions. If you do you will, as a rule, raise nothing but "scrub" colts, which will be an expense from birth, and never make saleable horses. Breed to a registered sire (for if he is registered you know that his breeding is what it should be for his class). Then breed for a purpose—that is to say, if you want to produce a draft animal, select a pure breed Percheron or other draft sire. If you want a coach horse, either the Hackney or French Coach Stallion will do. If your idea is to get something fast in harness for road or track, then breed to a Standard bred trotting stallion. If the desire is a gaited saddle animal, then the registered Kentucky Saddle Stallion is what you want. Last, but not least, if you want to produce a hunter, a horse that can gallop and jump day after day, let the sire be a Thoroughbred (running horse).

After selecting the breed, being sure that you have a registered animal, then first of all be satisfied that the stallion is absolutely constitutionally sound—has good eyes, good bone, no splints or spavin, side bone or ring bone. He should be well shaped—that is, of good conformation for his class, and should certainly have good manners, and be easy to handle, considering his sex and breeding.

LET YOUR BROOD MARE BE A GOOD INDIVIDUAL ALWAYS.

Having been careful in selecting a good, well bred

sire, then support his good qualities and show your good judgment by breeding a good mare. Unless you want to sell registered stock, or want to produce a track animal for speed, I should not advise going to the expense of only breeding registered mares, as they are hard to get. But always pick out mares individually good when selecting for breeders. The stallion cannot do it all. Let your brood mare be well shaped, constitutionally sound, have good eyes, good joints, free from spavin, ring bone, etc. She should have good, all-round action, and be attractive in her class. And, above all things, should have a good disposition, and be thoroughly gentle. Never breed a mare until she has been carefully handled and is quiet. Treat every horse as gently as you would your pet dog, and especially should this apply to the treatment of the brood mare at all times, though more so when she is carrying the foal. Remember that she is about to be a mother, and has to suffer enough for her young's sake naturally, therefore her owner ought to always see that she is well cared for and kindly treated.

CARE FOR THE FOAL FROM BIRTH.

Never fail to care for the foal, simply because it is with its mother. The mother is caring for two the best she can, but you must help her by giving her the best of attention and all the good nourishing food that she will eat, besides plenty of grass in season. The colt will fully pay you for all this feed by converting it into bone and muscle, and thus making you a well formed, good sized, early matured animal, for which the demand is greater than the supply.

Teach the foal to eat early by giving the mother oats and bran in a box that the little one can reach. Keep the foal with its mother on a good pasture; have a shelter that will protect the two from the cold rains. If you will put some good hay under this shelter on a rainy night, though it be summer, the two will eat and enjoy the hay. Do not let your colts wear themselves out trotting after their mothers either in the field or on the road. Never let a foal under two months old go longer than two hours without being with its mother, for at least ten minutes. Do not let a mare that is giving milk get overheated, and never let the foal nurse when the mare is hot. Remember that fresh drinking water is the life of the mother as well as her young.

Never frighten a foal, but tame it from birth, and you will not have to break a three year old.

The breeding makes the foal,

That's pleasing to our eyes:

While feeding makes the bone,

The height, the muscle and size.

J. G. FERNEYHOUGH,
Blacksburg, Va. State Veterinarian.

The Poultry Yard.

MANAGEMENT OF DUCKS.

Editor Southern Planter:

Prior to 1890 the duck was not considered a profitable fowl to raise. It was allowed free access to waterways or marshes, feeding mostly on fish and water insects. This food imparted to the flesh a strong flavor, making it objectionable, except to a few. As a matter of fact it is not at all necessary that the birds have access to water to be raised successfully. The only noticeable difference between "upland" and "water" ducks is that the latter are of prettier and cleaner plumage than the former.

The Standard recognizes ten breeds, as follows: The White Pekin, Colored Rouen, White Aylesbury, White Muscovy, Colored Muscovy, Black Cayuga, Gray Call, White Call, Black East Indian, and the Crested White. Of the breeds, the first six are considered profitable; the two breeds of Calls and the Black East Indian are bantams; and the Crested White are almost purely ornamental. The Pekins are the most valuable, being good foragers, quite hardy, large and maturing early. The standard weight of the adult drake is 8 pounds; adult duck, 7 pounds. The ducklings feather rapidly and weigh from 12 to 14 pounds per pair the first year without much fattening. As layers they excel, averaging from 100 to 130 eggs each season.

The Colored Rouen in deservedly popular throughout the country, ranking next to the Pekin. It is a fine market bird but does not mature as early as does the Pekin. The flesh is very delicate. The eggs are not as large as those of the Pekin, and are diverse in color. The standard weight of the adult drake is 9 pounds; adult duck, 8 pounds.

— BREEDING STOCK.

The proportion of the sexes should be about one drake to five or six ducks. Late in the season, when many of the ducks are broody, the proportion should be about one to ten. Be particular about this, as the eggs will be more fertile if a part of the drakes are removed.

A house 12x14 feet will accommodate nicely a flock of a dozen. The floor should be well covered with straw or leaves, as the ducks will lay at night or very early in the morning. By feeding only at night and morning, regularly, and always at the pen, the ducks can be easily shut up for the night. Nests are often made of 1-inch boards, 6 inches wide, 16 inches long, set 14 inches apart, and nailed to the back of the house. An inclosure should be given the breeding ducks as they do better confined. Give plenty of room and inclose the run with a 2-foot fence.

No description of poultry will devour so much, or feed so greedily. The troughs should be long and roomy, otherwise some will gorge themselves, while others will get but little. Do not keep food by them, as that will clog their appetites, and always affects the egg production, as well as the condition of the birds. Another essential point is that ducks will not produce their proper quota of fertile eggs on hard food alone. The natural food of the duck is principally vegetable and animal food obtained in streams and marshes. The passage leading from the throat to the gizzard direct is very small, making it impossible for the bird to assimilate or thrive on hard food. Feed a mixture of cornmeal, bran, cooked vegetables, roots, grain, grit, etc. Have a trough of water near by and never shut the birds up without permitting them to drink.

INCUBATION.

Collect the eggs early each morning to avoid chilling them. If any are soiled so that they must be cleaned, hold with the thumb and finger and rinse gently in water that has the chill removed but is not warm, let them drain but do not rub or you will remove the oily coat covering the shell and then they will fail to hatch. The germ seems capable of surviving a lower temperature than that of hens' eggs, but 55 or 60 degrees is safe, if the eggs are turned daily.

Fresh eggs give better results making it necessary to set the first laid eggs under hens. Five to seven are sufficient, according to the size of the fowl. Unless the nest is on the ground, particular attention must be paid to sprinkle the eggs daily with tepid water during the last two weeks of incubation. Twenty-eight days are generally required for hatching.

Because the eggs require much oxygen and give off so great a quantity of carbon dioxide it is essential to test thoroughly during incubation. An unfertilized duck egg is harmless, but if a fertilized egg dies in the process of incubation and is not removed it is likely to explode and cause annoyance. A decomposing egg is mottled or speckled with little points where the contents are oozing through the pores of the shell. Handle most tenderly in removing for it is more likely to explode than dynamite.

RAISING THE DUCKLINGS.

The season for raising ducks lasts from February to July. When the little fellows pip the shell they do not emerge as promptly as normal chicks, but stay quiet for perhaps twenty-four hours. On hatching let the mother retain her young upon the nest her own time, as they are very susceptible to change of temperature. Indeed, during the first three weeks of a duck-

ling's life, it is as tender as a little turkey, and should not be allowed to get wet. Prepare a coop and pen upon the short grass if the weather is fine, or under shelter if stormy. Here the duck and brood may be kept until the young are six or seven weeks old, when they are transferred to the growing houses.

FEEDING.

The three different methods are as follows: (1) Feeding for market (ten weeks old); (2) feeding young to be kept as breeders; (3) feeding for winter market.

The first feed should be cracker or bread crumbs and corn meal equal parts, hard boiled eggs and sand moistened with milk. After five or six days add wheat bran, meat scraps or meal and chopped greens. A breeder on Long Island recommends for the first feed corn meal, bran, coarse flour and sand. The hours for feeding are 6 and 10 A. M. and 2 and 6 P. M.

When ducks are raised for breeders they are forced less, and the corn meal is reduced. In summer only one meal a day is necessary, composed of cooked vegetables or roots, thickened with bran and ground grain.

SUPPLYING WATER.

A young duck will sometimes choke if it has no water when eating. It cleans its bill with each mouthful. Tepid water is a preventive of cramps but no water should be provided for swimming until the birds are reasonably well feathered. Besides the sand used in the feed place a small quantity in the drinking vessels, also a box of grit and crushed charcoal in the pens.

W.

MISTAKES WE MAKE.

In every vocation of life mistakes are made, and will be to the end of the chapter, and it is well that it is so for our mistakes help us to better things if only we recount them and aim each time to get a little nearer perfection.

As this is intended to help in the poultry business, I shall mention a few mistakes made along that line. We keep too many fowls through the winter to derive most profit from eggs, when they are highest. An over-crowded hen-house means an empty egg basket.

We do not buy our new stock in the fall when we could get them at small cost compared with the late spring. The first hatched fowls are best, and those offered in the fall are earliest hatched.

We do not begin feeding for eggs in time to have large returns when most in demand. A few hens well cared for do better than twice their number left to care for themselves.

We blame the hens, while we fail to study their needs and supply in winter what they can get for

themselves in summer. A busy, happy hen pays her owner well for every extra attention.

We do not keep nice, attractive nests in cold weather, nor warm water these cold mornings to warm the hens. They must sit on their feet till next feed hour, which is possibly overlooked if trusted to the hired boy.

No grit is supplied for cold, frozen days, when they must be housed for a long spell of cold. No meat, grass, oyster shells, nor anything more palatable than corn is offered for this stay indoors. If very long sickness results, then we wonder what is wrong with our chickens.

"Eternal vigilance is the price of care." No business prospers without a study of that business in its every detail. "Experience is a dear school," but it pays to know from experience what results we may expect from our treatment of stock in hand.

Let us be thorough and painstaking, putting forth our best effort, and thus have the approval of our own conscience, though the world should not approve.

MRS. JOHN F. PAYNE.

EGG-PRODUCING STRAINS.

Among poultry fanciers much has been done to develop particular strains of fowls inside the established breeds. For the most part, these strains have had reference more to form and color than egg production. So far as is publicly known, there are few strains that are developed along the egg-laying lines, though some breeders insist they have this object "partly" in view.

It takes generations of selection and breeding to make a really valuable strain, but the result would pay well in the production of eggs. We think the average fowl of any breed is a poor egg producer, but in every breed there are possibilities of very great improvement. It is frequently stated that a Plymouth Rock will lay 150 eggs a year; yet the result, if accurately counted, will come far, very far, short of this number, and that on farms where poultry is intelligently and properly cared for.

On the other hand, individual Plymouth Rocks have been known to lay 238 eggs in a year, and recently a breeder from California claims that 75 hens laid 17,400 eggs in 12 months, and 25 hens 6,251, an average of 231 in the first lot and of 250 in the second, which is, of course, phenomenal. With this breed, as well as with some others, it would be possible to develop a strain that would lay on an average 200 eggs per bird annually. As these extra eggs would be practically all profit, one can easily see the advantage of handling such a strain of birds, and the desirability of procuring such foundation stock as would help towards such a strain.

The Horse.

BREED FOR SIZE.

Editor Southern Planter:

Gentlemen,—I am a subscriber to your invaluable paper, and enjoy everything I find within its covers. I wish it was a weekly paper instead of a monthly. I would gladly pay four times the amount charged for the monthly to receive it four times a month. Why don't you make it a weekly and charge accordingly?

Having been breeding horses of various breeds for sixteen years in a small way, the Horse column, edited by "Broad Rock," is particularly interesting reading to me, and yet it was not until your issue of September, 1903, on page 579, at the bottom of the page, that I found in Broad Rock's note about the stallion Russell Rex exactly the keynote, according to my ear, of the proper tune to sing in praise of the trotting stallions offered in Virginia for the patronage of the public, and that keynote was slurred and softened, until a careless listener to the song of praise might fail to catch it. The words are: "Though a mastodon in size, being 16.3 in height and weighing close to 1,400 pounds," etc., and the writer goes on to say he is of symmetrical proportions and a very handsome horse, the writer had already credited him with the ability to trot close to 2:20.

Now, in few descriptions of trotting stallions in Virginia has Broad Rock given any emphasis to size. The readers of your journal can only conclude that the reason for the omission was due to the fact that of none of them was the size sufficiently great to justify comment, which brings me to the point I wish to emphasize. The little stumpy, trotting pony, or the bigger trotting slob, who can trot a mile in 2:00 minutes or thereabouts may do for the trotting race horsemen, who live and move and have their being in trotting training stables or tracks, but it has never struck me that those horses were the ones the farmers of Virginia ought to patronize, with the expectation of getting any money out of the sale of their colts. If you get a trotter, and this is a very uncertain "if," by breeding to the small trotting stud, and want to sell him, you are apt to be tempted to train him, or have him trained. If you undertake to train him yourself, whether you know anything about the business or not, the work with the horse will take you away from other work, or superintendence, and your other business will be sacrificed in your endeavor to "develop" your trotter, who may develop or not. If not, then you have drawn a blank in the horse line, and other things have gone to smash. If he does learn to go a few seconds faster, after months of work and worry, then

to sell him he must be taken to some city livery stable or track and there be shown and tried, and probably finally a purchaser found at a satisfactory price for the horse, but all this time the farm is going back. All this if you train him yourself. On the other hand, if you put him in the hands of a professional trainer, even an honest one, you never know when the bills will stop coming in for boots, shoeing, veterinary attention, etc. I have been there.

Again, when a farmer has a well bred large mare or two, and can find a big trotting stallion, the bigger the better, that can trot in 2:30 or better, and can breed his mares to such a horse, he may rest assured that with good feed and care, and such handling as he can give his colts, at five years old he can sell every one of them in Richmond, Washington, Baltimore, or any good market, quickly and at little cost, and will realize more profit from such a course of breeding than by gambling for speed. I never had any difficulty in selling at a good price a big horse of some beauty and style, and have often found and seen much faster but small horses hang on like a toe plaster.

For the farmers of Virginia, give us big sires to get big colts, to make sure some profit, sometimes a handsome one. In the cities of the United States there are always buyers looking for fine, large carriage horses, with some trotting action, and if you have such stock you can always sell it, and at a good price. It is needless to try to show that for his own use the farmer has absolutely no use for a small, fast trotter, and if the small, fast bred trotters can't trot, the farmer is "in the soup." I wish there were some such horses as I have described offered for public patronage in my neighborhood, but there are none. Why is it that size is subordinated too much to speed in the manufacture of the trotting breed of horses, essentially an American invention? W. R. C.

Westmoreland Co., Va.

SADDLE HORSES.

Editor Southern Planter:

"Broad Rock" gives us much information about the thoroughbred horses of Virginia, also the trotter, once in a while the Hackney, to which, by the way, I am not very partial, but that is immaterial, and sometimes he mentions jumpers, but he has nothing to say about a class of horses as beautiful as any, as intelligent as any, and as useful, the class known as gaited saddle horses. Not the walk, trot, gallop and jump favorites of the New York Horse Shows, but the American saddle horses, on whose back a man can

ride and attend to business for six days in the week, and when Saturday night comes be no more tired, if as much, as if he had covered the same distance in a rubber tired buggy. I have ridden these horses, but don't own one now.

W. R. C.

NOTES.

Not a month passes but testimonials are received regarding the value of the PLANTER as an advertising medium. We are deeply appreciative of all such.

We take pleasure in publishing the following interesting communication from Mr. Percival Hicks, whose farm is near North P. O., Mathews county, Va.:

"I have recently sold to E. R. Rajnoldo, 79 Victoria street, Toronto, Canada, the bay stallion Bloscellus, 25401, by Bloiceps, son of Orange Blossom, dam Marcella, by Sir Walkill. He is ten years old, and stands 16.2, while built in proportion. He will be used by his new owner as a sire of coach horses, for which, on account of his fine size, rich color and even temper, he seems admirably fitted. Indeed, it seems a pity that such a horse should leave this country, and not find ready sale at home at a profitable figure, but Mathews is distinctly a race horse county; then, too, in competition with such trotting sires as Letcher, 2:18½, by Dictator; Bedworth, 2:22; Pilot Medium, Jr., 2:09½; Edworth, 2:20½, and Sable Rock, by Sable Wilkes, he had little opportunity in the stud, and I did not find him a profitable investment, hence the sale of this son of Bloiceps. I now have in stable Kisses, holder of the track record at Newport News at three-quarter mile heats, and the black mare Alverna, by Cuthbert, son of Cuylerdam by Frank Morgan. This mare can show a 2:10 gait pacing, and is in foal to Pilot Medium, Jr., 2:09½, and the prospective foal is nominated in the Western Horseman Futurity for foals of 1904, value \$6,000. I am hoping that this foal may place Virginia in the front rank as a producer of early speed, an honor that her mild climate and short winters entitles her to try for. Indeed, no State this side of the Rocky Mountains has a better winter climate for growing stock, and we have the stallions, but as yet nothing like so many approved mares as I should like to see."

Dr. James Kerr, prominent in professional and other circles in Washington, D. C., and proprietor of the Antrim stud, Warrenton, Virginia, writes me that his horses are wintering finely. The former good race horse Chorister heads the stud, and the brood mares number about a dozen head, all bred in lines likely to produce winners. Chorister, the son of Falsetto and Addie C., is a bay horse of splendid physique, standing 16.2 in height and weighing 1,300

pounds. Formerly, in the noted Castleton stud, Lexington, Ky., he sired while there a number of good ones, among them Whitechapel, a horse known on both continents. The returns are not all in for 1903, but during the previous year his get won over \$28,000 on Jockey Club tracks, and with \$1,500 won by Maria Bolton at Charleston, S. C., a track not recognized, swells the total to something more than \$30,000. This was some \$15,000 more than was credited to any other Virginia thoroughbred sire. Young Dion Kerr, one of the crack gentleman riders of the South, has charge of affairs at Antrim, and the five yearlings on the place by Chorister from the farm mares, he thinks will compare favorably with many seen in the Blue Grass region of Kentucky.

The advertisement of Wealth, 2:10, which appears in this issue is decidedly interesting, as it refers to a harness horse with a faster record than any other stallion kept for service in the State. Wealth is in the stud at Gordonsville, Va., in charge of S. F. Chapman, whose father, Col. W. H. Chapman, purchased the handsome son of Gambetta Wilkes and Magnolia, by Norfolk, when a suckling by his dam's side, and has seen him develop grand individuality along with speed of a sensational order. Gambetta Wilkes is one of the handsomest and most successful sons of the immortal George Wilkes. His get have proven winners on all the big tracks, and he is the leading sire of 2:10 performers now, and promises at no distant date to lead all sires of standard performers that has ever lived. On his maternal side Wealth gets the potent blood of Nutwood, as his dam was sired by Norfolk, a son of that illustrious sire, and back of that comes more trotting and thoroughbred blood. Write Mr. Chapman for the stud circular of his horse and study his blood lines.

The brown colt Featherbone, by Whalebone, dam Alcyrene, a daughter of the famous dead Alcyone, which I sold last fall through an advertisement in the PLANTER to D. C. Lester, of Hatfield, Ark., is doing nicely in his Southern home, and promises to develop both speed and race horse quality. He is now two years old. His dam, Alcyrene, I sold to M. W. Savage, of the International Stock Farm, Minneapolis, Minn., and she has been mated with Directum, 2:05½, regarded as one of the greatest sires alive today. Mr. Lester formerly bred trotters in Idaho and sold several for good figures, but now his time is taken up with duties connected with his office of sheriff of Polk county, Ark., still he devotes his spare time to breeding fine horses and fancy live stock, for which he is well fitted on account of a practical knowledge of pedigrees and blood lines. Featherbone will be developed by Mr. Lester and then placed in the stud.

BROAD ROCK.

Miscellaneous.

VIRGINIA POLYTECHNIC INSTITUTE, BLACKSBURG.

(AGRICULTURAL AND MECHANICAL COLLEGE.)

The great increase in the number of students at the college, and the constant applications made for admission from all parts of the State, has produced such congestion in the class rooms, dining hall and dormitories that the Board of Visitors have been compelled to apply to the Legislature of the State for a special appropriation to enable them to meet the requirements and to obviate the necessity for refusing admission of students. They desire also to bring the agricultural side of the college into due proportion with the mechanical side. In the past few students applied to take the agricultural course. Now farmers are appreciating the value of science as an adjunct to their calling, and are asking that their sons shall have scientific training at the college. There are to-day more students taking the agricultural course than ever before in the history of the college. This and the probability of still more students desiring such instruction next term imposes upon the Board the duty of supplying the necessary facilities in the way of buildings and equipment. In comparison with the agricultural colleges of many of the other States, the buildings and equipment of our college for the teaching of scientific agriculture are most meagre and insufficient. We have been unpleasantly reminded of this in articles in several of the agricultural journals recently. The standing which the college has attained as a training place for young men in the mechanical arts has brought it into prominent notice in other States. This has led to special investigation by journalists of those States of the status of the college, and its equipment. Whilst one and all praise the mechanical side of the college and the work it has done and is doing as evidenced by the large number of graduates holding responsible positions in this and other countries, there is an equal unanimity in lamenting the facilities afforded by the agricultural department of the college. This should not be allowed to continue, and will not, if the Legislature will only find the money wherewith to remedy it. If the appropriation now asked of \$200,000 be granted not only will this deficiency be made good, but accommodations will be provided for further students in all departments. To-day there are nearly 700 of the sons of Virginia receiving instruction at the

college, a large number of them the sons of farmers. If the necessary buildings are provided, not less than 1,000 young men of the State will in all probability next session be learning how to do in the best way something to earn a good living, and not merely how to talk. We have *talkers* in excess already, we want *doers*. Let the members of the Legislature hear from every farmer in the State *at once*, urging the making of the appropriation asked. The college is the farmers' college; let it be made the greatest institution in the State, as they are the greatest factor in the State's progress.

BIRDS AND THE FARMERS.

We notice that some wiseacre in the Legislature wants to place a price on the scalp of the crow and the poor hawks are already in many counties thus handicapped. We desire to protest against such legislation, and would ask our farmer friends to support us in this matter by writing their representatives on the subject. Investigation by a large number of authorities has settled the question that the crow is the farmer's friend, and not his enemy. His diet is almost wholly insectivorous at all times, and certainly so during the breeding season. We knew a case where a farmer was very wroth with a flock of crows for frequenting his newly seeded wheat. He was satisfied that they were eating the seed and pulling it up as it germinated. One was shot, and examination of this crow showed not a single grain of wheat, but a crawful of wire worms and grubs. This man was ever after a friend of the crow. In like manner the hawk is a much maligned bird. Whilst it is true that some members of the hawk family kill chickens, yet it is equally true that nearly all the hawks are great destroyers of mice, rats and other small animals of various kinds, which are destructive of crops. A few years ago in the South of Scotland hawks and owls were nearly exterminated by the game keepers. As a result the whole section was infested with a plague of rats and mice, which consumed an immense amount of grain and fodder before they could be destroyed. If our legislators must do something in the way of legislating as to the birds we would strongly urge that they repeal the legislation protecting the Turkey Buzzard and in the place of protection offer a good reward for the destruction of these birds. They are the great means whereby hog chol-

era and other infectious and contagious diseases of animals are spread over the State. It should be made a penal offence for any one to throw out a dead animal to be consumed by buzzards. Make it imperative that all dead animals be either burnt or buried deeply; get rid of the buzzards and we will soon be rid of hog cholera and other infectious and contagious diseases of animals, or shall have them confined to the limited areas, where outbreaks may occur.

POLYGONUM SACCHALINENSE; SACHALIE BUCKWHEAT.

Editor Southern Planter:

Replying to an enquiry in the last issue, *polygonum sacchalinense* is as the Latin name indicates, not a clover, but a buckwheat. It is a perennial growing wild on the desert island of Sachalien, in the Sea of Okhotsk, on the east coast of Siberia.

The plant was for the first time advertised for sale about four years ago in Germany and Russia. A photograph shows that it grows from 7 to 8 feet high, resembling tobacco. It is claimed that this sachalien buckwheat grows on all kinds of soil, even on sandy and gravelly soils, and that it withstands the hardest winters as well as the hottest summers. When the plants are well established, they should last 20 years with little care. The young shoots are juicy and tender, and should be cut when about 4 feet high. From 2 to 3 crops may be harvested every year, or one crop, if the plants are allowed to grow to the full height of seven or eight feet. It is said that it is not advisable to buy the seed, as it is difficult to get it pure. The seed firm of Ernest Bahlsten, Weinberge, Prague, Bohemia, offers seedlings for sale: 1,000 plants, \$47; 100, \$5; 25, \$1.50; 10, 75 cents. If the seed or the plants can be bought here I am not aware of it. H. WINKELMAN.

District of Columbia.

REMEDY FOR LICE ON CATTLE.

Editor Southern Planter:

In reply to J. D. H. for a remedy for lice on cattle I will give my remedy which has proved very effective. I had several heifers that were looking badly notwithstanding they were well fed and housed. I had never had a lousy cow and felt rather insulted when told they were lousy and paid no attention to them, but soon one of them got so weak she could not walk a hundred yards. I became alarmed and descended to examine her, and to my horror, I think there was a louse for every hair.

It was a cold February day, but a sunny day. I knew she would die if not relieved at once. I made

a tea from a bundle of tobacco to two gallons of water and put in enough kerosene to make it smell strong. I took the leaves and rubbed the tea thoroughly all over her. This was early in the morning. By night every louse seemed to be dead, but in a few days I saw others. I washed her the second time and got rid of all the brood. I never saw any bad effects from it. I treated all the others with like success and have never had a louse since. N. S. WATKINS.

Goochland Co., Va.

We can endorse this remedy from personal experience.—Ed.

HOG RAISING.

Editor Southern Planter:

Years ago after I had lost nearly a hundred hogs and despaired of raising hogs, having only seven left, I accidentally saw in an agricultural paper an article on hog cholera and was so much impressed with the same that I at once tried the preventive suggested and as a result had no more disease. The remedy was nothing but plenty of wood ashes where the hogs could get them.

Before this time I always had great trouble to get my hogs to fatten. Now I would as soon try to raise chickens without Polk Miller's Victory Chicken *Powhatan Co., Va.* W. W. HOBSON.

Food as not to give my hogs plenty of ashes. As the result of eating the ashes they had no bowel worms or boils on their livers whilst before they were full.

A better preventive of disease than wood ashes alone is wood charcoal 1 pound, sulphur 1 pound, sodium chloride (salt) 2 pounds, sodium bicarbonate 2 pounds, sodium hyposulphite 2 pounds, sodium sulphate 1 pound, antimony sulphide (black antimony) 1 pound. Pulverize and thoroughly mix. Give a large tablespoonful for each 200 pounds weight of hogs once a day. Mix with the slop food and the hogs will eat it readily.—Ed.

FOREST HOME FARM, LOUDOUN CO., VA.

The proprietor of this farm writes us that during the last year he sold over 250,000 pounds of 4.7 per cent. milk and 130 hogs and pigs. Since November 1st last the farmers delivering milk to his creamery (about 3,000 pounds per day) have received for their product 30 cents per pound for their butter fat and have had the skim milk returned to feed to their own stock. Such a record must be very gratifying to the farmers of that section and shows what may be done to improve the condition of the farmers by the establishment of a creamery in almost any county of the South.

THE Southern Planter

PUBLISHED BY
THE SOUTHERN PLANTER PUBLISHING COMPANY,
RICHMOND, VA.

ISSUED ON 1ST OF EACH MONTH.

J. F. JACKSON,
Editor and General Manager.
B. MORGAN SHEPHERD,
BUSINESS MANAGER.

TERMS FOR ADVERTISING.
Rate card furnished on application.

TERMS FOR SUBSCRIPTION.
THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at 60c. per annum; all foreign countries and the city of Richmond, 75c.

ALWAYS GIVE THE NAME OF THE Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

THE DATE ON YOUR LABEL shows to what time your subscription is paid.

REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

Address THE SOUTHERN PLANTER,
RICHMOND, VA.

Entered at the Post-office, Richmond, Va., as second-class matter.

PUBLISHER'S NOTES.

TO ADVERTISERS.

We wish to impress upon our advertisers the necessity of having ALL advertisements, no matter whether new or change of copy, in our office by the 24th of each month. Advertising forms close on the 25th. We are compelled to leave a number of advertisements out of each issue because they are received too late.

WITH THE ADVERTISERS.

The Majestic Rotary Washer is advertised in this issue by the Richmond Cedar Works.

Mr. Percy L. Banks has a card on another page offering "Bug Death," an insecticide, which is rapidly coming to the front.

Messrs. Shannon Bros. have an attractive ad in another column. They can handle commission orders for pure bred stock on short notice.

Agricultural time can be had of Messrs. T. C. Andrews & Co. Look up their card.

Mr. H. C. Ward who has the largest broiler plant in this section, is offering some of his well known stock, from which he makes his celebrated broilers.

The Park Poultry Yards is a new advertiser in this issue.

"M. D. L." desires to purchase a flock of common goats.

Choice nursery stock, ornamental trees, etc., can be had of the Murrell Orchard & Nursery Co.

A new Berkshire advertiser in this issue is Mr. John Calhoun. He has the right foundation stock. Better get his prices.

The Monarch Grubber & Stump Puller is offered by the agent for this State, Mr. J. W. Ritchie.

The Risdon Seed Co. has a card in another column, to which we invite attention.

The Virginia Hill Poultry Farm is offering first class stock and eggs from the most popular strains.

The Granite Poultry Yards are offering eggs and choice stock of Wyandottes and Barred Plymouth Rocks. Look up their ad and write for prices.

The Norfolk Farm Supply Co. has an attractive card on another page. Farmers who are needing any farm tools or supplies, should get in correspondence with this firm.

The Chicago House Wrecking Co. has several attractive ads in this issue. Zenoleum, the well known sheep dip and disinfectant, is offered to our readers for the first time in this issue. Kindly refer to the ad and write for some further information in regard to this successful dip.

If you want Clean Fields
and Clean Crops, Sow

Wood's Trade Mark

Clover and Grass Seeds.

They are the best and cleanest qualities that it is possible to procure—free from plantain, daisy, wild carrot and other objectionable weed seeds, often found in ordinary clover and grass seeds.

Wood's Seed Book for 1904

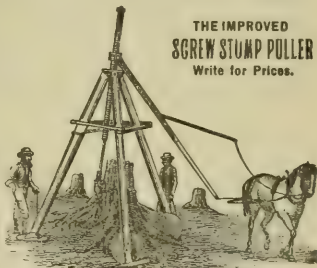
gives the most complete information and up-to-date experience about all Grasses and Clovers. Mailed free on request. Write for Seed Book and special Price List of Grass and Clover Seeds.

T. W. WOOD & SONS, Seedsmen,
RICHMOND, - VIRGINIA.

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THE IMPROVED
SCREW STUMP PULLER
Write for Prices.



Chamberlin Mfg. Co., Olean, N. Y., U. S. A.

HERCULES STUMP PULLER



Clears an acre of heavy timber land each day. Clears all stumps in a circle of 160 ft. without moving or changing machine. Strongest, most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centerville, Iowa.

Stump Pullers



gubbing - machines,
DERRICKS to handle
cane, cotton and tobacco.
Derricks to lead manure.
Derricks for all purposes.

Dept. L. NATIONAL HOIST & MACHINE
CO., Chicago, Ill.

State of Ohio, City of Toledo, Lucas County, ss.

Frank J. Cheney makes oath that he is senior partner of the firm of F. J. Cheney & Co., doing business in the city of Toledo, County and State aforesaid, and that said firm will pay the sum of one hundred dollars for each and every case of Catarrh that cannot be cured by the use of Hall's Catarrh Cure.

FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1886.

(Seal.) A. W. GLEASON,
Notary Public.

Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.

F. J. CHENEY & CO., Toledo, O.
Sold by all Druggists, 75c.

Hall's Family Pills are the best.

Kemp & Burpee Mfg. Co. are offering their up-to-date Manure Spreader.

The Belcher & Taylor A. T. Co. have a couple of ads in this issue, one of their corn planter and the other of a fertilizer distributor. We have frequent inquiries for the latter and beg to suggest that this is the place to get it.

Curry Bros., seedsmen, have an interesting ad in another column.

The Hench & Dromgold Co. resume their spring advertising in this issue. Their Daisy Corn Planter is the offering this month.

The B. F. Baker Co. are advertising their traceless harness. Look up the ad.

The International Harvester Co. has several ads in this issue giving information in regard to their various branches. Kindly look up these ads, so you will know where to apply for repairs as well as new machines.

Parties desiring to purchase eggs, poultry, poultry supplies, or incubators, should look through this issue carefully. There will be found scores of ads of prominent dealers and our readers should have no difficulty in being accommodated.

The real estate men always find the SOUTHERN PLANTER a profitable advertising medium. We suggest, therefore, that any one desiring to buy, sell or exchange a farm should look through our columns before placing their property in the hands of an agent.

The Electric Wheel Co. is using enlarged space in this issue to exploit its Low-down Handy Wagon and metal wheels.

Dr. Jos. Haas would like to send every hog raiser and breeder a copy of his book entitled "Hogology." Look up his ad and send for the book.

Mr. A. Pollard has two ads in this issue which will interest all horsemen.

H. Armstrong is offering some bargains in Herefords and Dorsets. We invite attention to the ad.

Local agencies and complete repair stocks everywhere

PLANO HARVESTERS

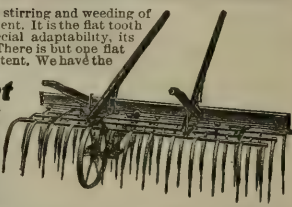
International Harvester Co. of America, Chicago, U. S. A.

HALLOCK Combined Weeder and Seeder

The farmer who knows the value of light surface stirring and weeding of growing crops recognizes in this the prize implement. It is the flat tooth cultivator. You know what that means—its special adaptability, its service, its results. Increases crop 25% to 40%. There is but one flat tooth—the only satisfactory tooth—the Hallock patent. We have the right to manufacture it

The Seeder Attachment

means getting a good stand of clover, timothy and other grasses. It sows them all, and its positive force feed can be adjusted to sow accurately from 2 to 18 quarts per acre. Especially valuable in the wheat fields, as the surface cultivation benefits the wheat and at the same time the grass seed is sown and lightly covered. The seeder can be readily attached to or detached from the weeder frame. Either is sold separately when desired. Catalogue is free. Don't fail to write for free book of field scenes, showing half-tones from photographs of the weeder in actual use.



Keystone Farm Machine Co., 1554 North Beaver Street, York, Pa.

DeLoach Saw Mill

Special for the Man with Light Power and Heavy Timber.
Cuts 2,000 to 10,000 Feet per Day. 4 to 20 h. p.



This Pony Mill is especially adapted to the use of threshermen who have engines, enabling them to secure profitable all winter employment when the threshing season is over.

We Make All Styles

Saw mills from smallest to largest capacity. A great exclusive feature in the DeLoach Variable Friction Drive.

Our advantages in cheap Southern labor and superior and low-priced lumber, iron and steel enable us to make the best saw mills for least money of any manufacturer in the world.

Our Mill Machinery Line includes Shingle Mills, Planers, Edgers, Trimmers, Stave Mills, Lath Mills, Water Wheels, Portable Grinding Mills, Shelling, etc. Ask for Saw Mill and General Machinery Catalogue. Mailed free for the asking.

DeLoach Mill Mfg. Co.,
Box 600 Atlanta, Ga.

FARQUHAR MACHINERY

Send for handsome new 1904 Catalogue.

AJAX PORTABLE AND TRACTION ENGINES

THRESHING MACHINES

All sizes.

PENNSYLVANIA GRAIN DRILLS
Disc and Hoe. Improved for 1904.

PORTABLE SAW MILLS

with friction feed and log runner.

A. B. Farquhar Co., Ltd.
York, Pa.



CATALOGUES.

The annual catalogue of The Watt Plow Co., Richmond, Va., is before us. We are not quite sure, but we think this company has surpassed all previous efforts in getting up a thoroughly attractive and interesting catalogue. It is chock full of illustrations, descriptions and prices of every implement and appliance used on or about the farm: Carriages, harness, threshers, engines, saw mills, evaporators, harvesting machinery, all of the latest patterns. All farmers are invited to send for a copy.

The Reliable Incubator & Brooder Co., Quincy, Ill., have just issued their 20th annual catalogue, and as usual with this company, it is a most elaborate one. The Reliable people are nothing if not unselfish. They do not believe their yearly catalogue should be entirely taken up by themselves in advertising their goods, but sufficient space is given to the description of their incubators, brooders and supplies, and the remainder devoted to general information on poultry subjects, making it a most valuable book for anyone who raises poultry. It gives many practical pointers that would require years of experience to acquire. Every reader of this paper should have a copy. Write for one. Mention this paper when writing.

The Electric Wheel Co., Quincy, Ill., send us its latest catalogue. It is a beauty. It deals, of course, with the Electric Low Down Wagons and metal wheels. This company, in introducing its broad tire wheels, is doing more for the good roads movement, than nine-tenths of the legislatures in the country. As to the Low Down Wagon, anyone who has ever used one or seen one, knows the enormous amount of labor they save. The matter is treated fully and illustrated aptly in the catalogue. Send for it. Address, Box 146, Quincy, Ill.

One of the most striking catalogues that has reached our table this season is that of the Ohio Carriage Manufacturing Co., Cincinnati, O. It is a splendid example of the printer's art and is filled with interesting descriptive matter and illustrations of this company's celebrated Split Hickory vehicles. This company has another booklet, "Good Buggies and how they are made," which will be mailed to anyone for the asking, regardless of whether he wants to buy a buggy or not. Be sure and get both the catalogue and booklet. Address the company at Station 41, Cincinnati, O.

The B.F. Baker Co., Burnt Hills, N. Y., is a new advertiser in this issue. We hope you have seen their ad and will write for a catalogue. This company is advertising Traceless Harness. Did you ever hear of or see a set? Probably not. The catalogue gives full information and testimonials from orchardists and others who have used them.

FOUNDED

1802.

GOLD MEDALS:

Paris, 1900. Pan-American, 1901.

Thorburn's Seeds

for over a hundred years have been universally recognized as the standard of excellence. They received the GOLD MEDAL (the highest award) both at the Paris Exposition of 1900 and at the Pan-American, 1901.

Our Catalogue

—the 103d successive annual edition—contains a more complete assortment and fuller cultural directions than any other seed annual published. It is beautifully illustrated, not with highly colored exaggerations, but with the finest half-tones from life photographs. It contains 144 large size pages, and is in every respect and without exception the most complete, most reliable, and most beautiful of American Garden Annuals. We will mail it FREE.

Market Gardeners

are invited to send for our special price list of high-class vegetable seeds for truckers and large market growers. It contains all sorts of approved merit.

J. M. THORBURN & CO.,

36 Cortlandt St., NEW YORK.

..ELMWOOD NURSERIES..

—WE ARE GROWERS AND OFFER A FINE ASSORTMENT OF—

Apples, Peaches, Pears, Cherries, Plums, Apricots, Nectarines, Grapevines in large assortments, **Gooseberries, Currants, Strawberries, Horse-Radish, Asparagus, Dewberries** and an extra fine lot **Raspberries**. Splendid assortment **Ornamental and Shade Trees, Ornamental Shrubs and Hedge Plants**.

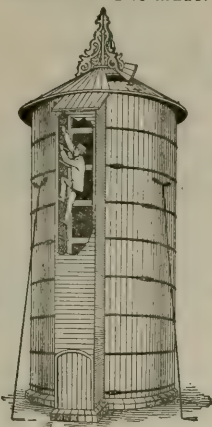
EGGS from B. P. ROCK and BROWN LEGHORN FOWLS at \$1.00 per 12. Also a few pullets and cockerels of these breeds at \$1.00 each for immediate delivery. Write for Catalogue to

J. B. WATKINS & BRO., Hallsboro, Va.

The "LANSING" PERFECT TUBULAR SILO

is the Best Silo Made.

It has continuous Hoops and continuous Door-way. Have no other.



Insist on having the Lansing.
It Will Save Your Entire Crop.

A. M. D. HOLLOWAY,
Builders Exchange, Phila., Pa., U. S. A.
Write for Catalogue and Prices.

Clark's Tools for Large Hay Crops

Clark's Rev. Bush Plow and Harrow cuts track 5 ft. wide, 1 ft. deep. Connects to subsoil water. It is an excellent machine for covering in sugar cane. Strength guaranteed.

Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.

Clark's Double Action Cutaway Harrow moves 15,000 tons of earth in a day.
Send for Circulars.

Clark's Rev. Sulky Disc Plow

Made single or double. One or two furrows five to ten inches deep; 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charrlock, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seeding to grass.

THE CUTAWAY HARROW CO.,
Higginum, Ct., U. S. A.

WITH HUSKS ON

or off, cob corn or shelled, all grains. It will not choke. There's speed and fine or coarse grinding with

Kelly
DUPLEX
Grinding Mills.

Steady force feed. Double breakers, double set burrs. Little power, any kind, runs them. 4 sizes. Catalog free.

The O. S. Kelly Co., Springfield, Ohio.

GOOD HOUSEKEEPING.

CREAM OF TOMATO SOUP.

Put one can of tomatoes and half of an onion chopped fine in a pan to stew for twenty minutes, till they can be passed through a sieve. Then put them in a boiler and add half a teaspoon of soda, a tablespoon of sugar, a teaspoon of salt, black pepper and a pinch of parsley. Keep this at the boiling point. Rub two large tablespoons of flour into two tablespoons of butter until smooth, and pour slowly over them a quart of scalding milk. Let it cook until it is creamy, then just before serving pour the tomatoes and milk together very slowly, and put on the table at once. Do not cook at all after they are mixed as there is great danger of the milk curdling. Have small squares of toast to eat with this, putting a handful into each plate and pouring the soup over.

CREAM OF CELERY SOUP.

In the spring as the celery is hard to get and is rarely as tender as would like to have it, it is a very good plan to make soup of it, and if you have your own celery bed the short rough pieces and the roots can be used and they are really better than the long tender pieces, as they have more of the celery taste.

Chop up enough to measure one quart, in small pieces, add to it one quart of boiling water and let it cook until thoroughly tender. Mash it and rub it all through a sieve, allowing as much of the pulp to go through as possible. Melt two large spoons of butter and stir into it two heaping tablespoons of flour, when well blended, not browned, add slowly one quart of scalding milk, stir until smooth and creamy and then put in the prepared celery, half a teaspoon of onion juice, salt and pepper to taste. Add half cup of whipped cream just before serving.

STUFFED BEEF STEAK.

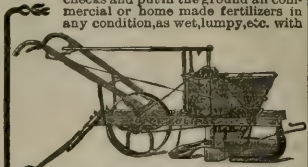
Select three nice pieces of round steak. Lay one in the bottom of a pan and make a stuffing just as for turkey, with the addition of some small pieces of chopped onion or onion juice. Spread this evenly over the steak and put on the next piece treating as before and then put on the top piece, sprinkling some of the dressing over it. Pour about three cups of boiling water in which you have melted two tablespoons of butter over this. Pin it all together with sharp pieces of wood, if you have no skewers, and bake slowly for two hours, basting several times. Serve hot, slicing through all three pieces.

BAKED BEEF.

Buy a cheap cut, the neck, or any of the odds and ends, without much bone. Run it through the meat chopper, or sausage grinder. To about two quarts put a pint of stale bread crumbs, three raw eggs, salt, pepper, and a half cup of melted butter, half cup of tomato catsup, or soup mix-

Corn Planting

and fertilizing go hand in hand. You can plant in hills, drills or checks and put in the ground all commercial or home made fertilizers in any condition, as wet, lumpy, etc. with



THE ECLIPSE

Corn Planter and Fertilizer Distributor, With Improved Row Marker.

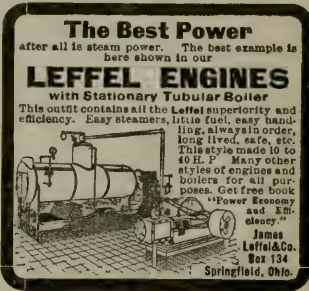
Adapted as well to Peas, Beans, Beets, etc. Hills 6 to 45 inches apart. Distributes 50 to 150 lbs. fertilizer per acre. Wide and easy adjustment. Light draft, weight 150 lbs. Easy to handle, a model for accuracy and durability. Investigate our Eclipse Two Row Two Horse Planter. Agents wanted in new territory. Write for circulars and terms.

BELCHER & TAYLOR A. T. CO.,
Box 25, Chicopee Falls, Mass.



A single row corn planter, made with or without fertilizer attachment. Has either double or concave single wheel. Has 4 drives or dropping cones. Dropper and fertilizer fed regulated by link chain belt. Chain wheels for dropping corn. Drops 1 grain from 11 to 19 inches or 2 grains from 25 to 35 inches apart. 3 extra feed wheels for fertilizer attachment drills 20 to 55 lbs. fertilizer per acre. Ground wheel (if not) can be raised or lowered for deep or shallow planting. Extra tools can be supplied for dropping or drilling peas, beans, soybeans, etc. Write for Catalogue

HENCH & DROMGOLD, York, Pa.



The Best Power
after all is steam power. The best example is here shown in our

LEFFEL ENGINES

with Stationary Tubular Boiler
This outfit contains all the Leffel superiority and efficiency. Easy steamers, little fuel, easy handling, always in order, long lived, safe. This style made 10 to 20 H.P. Many other styles of engines and boilers for all purposes. Get free books "Power Economy and Efficiency" James Leffel & Co. Box 134 Springfield, Ohio.



ONLY 55c. MEND YOUR OWN SHOES. Send for our complete

Cobbler's Outfit ONLY 55c.
Contains half-soiling iron stand with 3 reversible lasts, 1 shoe knife, 1 shoe hammer, 1 pegging awl, 1 harness awl, 1 sewing awl, 2 papers of shoe wax, 1 wrench, 1 awl handle. A complete set of tools for shoe and harness mending, packed in wooden box. Send for free catalogue.

ECONOMY
HAPP COBBLER

STEWART BROS.
447 N. High Street, Columbus, Ohio, U. S. A.

THE BEST SPRAY PUMP ON EARTH



We know its merits from practical experience. Having used almost all known pumps in our own orchards, consequently we are able to judge of its superiority over all others. It is the most durable pump made. The easiest working pump; no stuffing boxes to look after. The handle is adjustable to suit the height of the operator. Is a simple, direct motion. A pressure of 150 to 200 pounds can be easily obtained. Hand and Geared Vineyard Sprayers a specialty. Patented and manufactured by **LATHAM & CO.,**

rator. The agitator is a simple, direct motion. A pressure of 150 to 200 pounds can be easily obtained. Hand and Geared Vineyard Sprayers a specialty. Patented and manufactured by **LATHAM & CO.,**

Sandusky, O. Send for Catalogue.

Spray Apple Trees.

There's no other way to get right fruitage. Its mounted barrel tank, galvanized brass cylinder, bronze ball valves and automatic agitator make the

CENTURY SPRAYER

the ideal for all orchard operations. All kinds of sprayers for all purposes. 20 styles. Hand, Bucket, Knapsack, Barrel, Field, Power. Special needs all met. Catalog free. Booklet on use and fruiting trees free.

THE DEMING CO., SALEM, OHIO.
Henton & Hubbell, Western Agents, Chicago, Ills.

Get the Best

A Good Spray Pump earns big profits and lasts for years.

THE ECLIPSE

is a good pump. As practical fruit growers were using the common sprayers in our own orchards—found their defects and then invented The Eclipse. Its success practically forced us into manufacturing on a large scale. You take no chances. We have done all the experimenting.

Large fully illustrated Catalogue and Treatise on Spraying—FREE.

MORRILL & MORLEY, Benton Harbor, Mich.

Latest and best. All sizes. Throw 40 kinds spray from same nozzle. Agents wanted.

\$20.00 A DAY

has been made by a cent. Showing its selling. First community order (wholesale price) sets permanent local agency. Write for terms and free circulars.

ROCHESTER SPRAY PUMP CO.,
21 East Avenue, Rochester, N. Y.

SPRAY

FORCE PUMP
HAS NO EQUAL
PRICE REASONABLE
CATALOGUE FREE
AGENTS WANTED

THE HOIL MFG. CO.
333 MAIN ST.
BUFFALO, N. Y.

ture. Mix all together well with a fork and put it into a pudding disk, bake slowly or steam. This makes a good dinner dish. It looks better made into a mound or pone and baked, garnishing with celery tops or parsley, and served either hot or cold for tea.

TOMATO SALAD.

Scald one can of tomatoes until tender, rub them through a sieve, letting the seed and pulp go through too. Season, with salt, pepper, a teaspoon of onion juice and while hot pour into it four tablespoons of gelatine, which has been soaked in a half cup of cold water for two hours. Pour it into a mold and let it stand till the next day. Serve on lettuce leaves with mayonnaise.

BAKED EGGS.

Boil your eggs twenty minutes. A dozen will make a good dish. Take off the shells, and when cold slice them in thin slices, put a layer into the bottom of the pudding dish, and over this a layer of fine crumbs of stale bread, salt, pepper and dabs of butter. Repeat the operation till the dish full, having the crumbs on top. Over this pour a pint of sweet milk and bake twenty minutes.

PINE APPLE PIE.

One can of grated pineapple,, or a pint of grated fresh pineapple. One and a half cups of sugar, three heaping tablespoons of butter, five eggs, whites and yolks beaten separately, very light. Cream the butter and sugar, add the yolks, and then a cup of rich cream, then the fruit and lastly the whites. Mix all well together and bake in pans lined with rich pastry. Good hot or cold, but better cold.

SOFT GINGER BREAD.

One-half cup of butter, two cups of good Porto Rico molasses. One cup of sugar, four cups of flour, one teaspoon of soda and a cup of sour milk, three tablespoons of powdered ginger, and half teaspoon of cloves. Serve hot or cold.

PRUNE CAKE.

One cup of butter, one cup of milk, two cups of sugar, creamed into the butter, three cups of flour and four eggs, beaten separately, one teaspoon of baking powder. Bake in layers and spread between them a filling made with: One-half pound of the best prunes soaked in water all night and allowed to steam until the stones can be removed easily, when cold add one quarter of a pound of chopped almonds, and one quarter of a pound of chopped pecans, chopping the fruit and nuts together until they are almost a paste, then stir them into an icing made with the whites of three eggs and six tablespoons of powdered sugar beaten very light.

QUEEN OF PUDDINGS.

Two and a half cups of bread crumbs. Over them pour a quart of scalding milk. beat the yolks of four

You Can't Fool the People

We have sold up to date more than a million and a quarter light draft, wide tire, low steel wheels. We are making more of them than any two other factories. Several hundred thousand farmers who are using them say they are the best by every test. Does that mean anything? It means just this:

ELECTRIC Steel Wheels and the ELECTRIC Handy Wagon

have proved themselves to be superior to any other. No living man can build a better. We make them ourselves, by our patented process. They are made right. We give them the strongest possible warranty. You run no risk in buying them. The spokes are united with the hub and simply can't work loose. They last a lifetime without repairs. Don't go on breaking your back loading high wagons and rutting your fields with narrow tires. Don't be deceived into buying a makeshift. Get the best while you're at it. It costs no more. Send for free catalogue and use your own judgment.

ELECTRIC WHEEL COMPANY,
Box 146 Quincy, Ill.

ELECTRIC

WARRINER'S CHAIN HANGING STANCHION.

CLEAN, SAFE, COMFORTABLE.

MFG. BY W.B. CRUMB, Forestville, Conn.

Defender Sprayer

All brass, easiest working, most powerful, automatic mixer, expansion valves, double strainer. Catalogue of Pumps and Treatises on Spraying free. AGENTS WANTED.

J. F. Gaylord, Box 80, Olathe, Mo.

TENT CATERPILLAR DESTROYER.

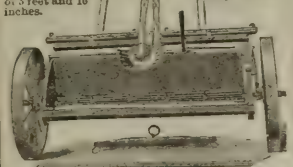
MANUFACTURED AND SOLD BY
R.B. WILLIAMSON, CLIFTON SPRINGS, N.Y.

Sows or Drills

**Stevens
Fertilizer
Sower**

Sows broadcast
seed from 30 to
40 lbs. per acre.
Spreads to width
of 5 feet and 10
inches.

**All Commercial
Fertilizers**
in all condi-
tions handled
equally well.
Work is uni-
form. Machine
is low and
easy to load.



Broad Tired Wheels Make Light Draft
and avoid putting in pits. Shifts to one or two lines. Quick adjustment for drilling or broadcasting, fast or slow spreading. Sows makes cost in saving fertilizer. Free circulars and testimonials.

Belcher & Taylor A. T. Co.,
Box 25 Chicago Falls, Mass.

Farmers Having Stumps



to pull or land to clear, will do well to investigate

The Monarch Grubber and Stump Puller.

It is the best on earth; you make no mistake in buying of a man of 5 years' experience in pulling stumps. We set up the Fuller and guarantee satisfaction before we draw your money. 5 sizes. Write for catalogue and prices. J. O. W. RITCHIE, State Agent, R. P. D. No. 33, Grottoes, Va.

What About Your Drinking Water?

Are you satisfied with it? Do you have enough?

I SINK ARTESIAN WELLS
WITH THE MOST MODERN IMPROVED MACHINERY.

Sparkling Artesian Well Water Possible. You can have it Absolutely Pure and Your Own. Surface and Reservoir Water is more or less polluted.

I Guarantee First Class Work and Rapid Execution of Contract.

JNO. W. RANDALL, White Plains, N. Y.

Correspondence solicited.

WELL DRILLING MACHINES

The most successful money-making machine ever made. Also machine for boring wells with augers by horse power. Write us if you mean business.

Loomis Machine Co., Tiffin, Ohio.

eggs with one cup of sugar and stir into this while it is hot. Let it cool and put into a pudding dish with a half pound of seeded raisins, season with nutmeg and bake slowly until it is well set, then take it out and spread over the top a layer of acid jelly or jam and the whites of the eggs beaten light with six tablespoons of sugar, let it brown and set aside to get cold. Serve with cream seasoned with vanilla.

CARAVEN.

THE GOOD OLD TIME PIECES OF OUR GRANDFATHER'S DAYS.

How well we remember the old fashioned clocks of our grandfather's days. They were from six to ten feet tall, eighteen inches wide and stood up against the wall, generally in the dining room, and were wound up once a week.

They were a slow, solemn, dignified set—those old fashioned clocks. They generally stood in a corner of the dining room and solemnly, soberly, and sedately marked off the time; and the monotonous "tick-tock, tick-tock, tick-tock" sounds in our ears after forty years wanderings from the old home and the old clock.

There was no intimation of flying seconds in those old clocks. It was a slow steady, solemn noting of the passing minutes. The "tick-tocks" were not rapid enough to catch and note the seconds.

How off in the silent watches of the still midnight; and in the almost oppressive stillness of the Holy Sabbath, have we heard that solemn injunction "don't hurry," "don't hurry," "don't hurry" and everybody in the good old times of our grandfather's days and clocks heeded this injunction; and they "didn't hurry," "didn't hurry," "didn't hurry," "didn't hurry," but took things easily, then. There was no hustle, bustle, worry and drive. But those old clocks; those old times; and those old fashioned people have all passed away.

Time now is marked by "fractions of seconds" upon the little spasmodic clocks of the present. The old clock said plainly "don't hurry;" the modern clock says "you get." The very clocks of the present exert a quickening nervous influence upon our steps; our thoughts and our actions. We think quickly—speak quickly—and act quickly. We are compelled to do so. If we do not act quickly, promptly and intelligently, the very time pieces say "got left," "got left," "got left." The old clock said "don't hurry," the new one says "you get" and even the Virginia farmer has "to get" or "get left."

A. JEFFERS.

"Your Plant Setter is the best thing that ever struck the tobacco, tomato and cabbage sections." Read Masters Planter Co.'s ad. in another column.

UNION LOCK POULTRY FENCING

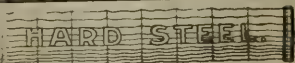


HAS BEEN FULLY
TESTED AND FOUND
SUPERIOR TO ALL
OTHERS.

Will fit uneven ground with out cutting. Every part can be stretched perfectly. Made of

high grade galvanized steel wire. All horizontal lines are cables, making it stronger. Has fine mesh at the bottom for small chicks. We also make extra heavy for gardens, lawns, etc. The largest poultry farms are using this fence—over 700 rods by Lakewood (N. J.) Farm Co. We pay freight and satisfy every one or no sale. Can ship from N. Y., Chicago, or San Francisco. Write for free catalog of Farm, Lawn and Poultry Fencing.

CASE BROS., Box 340, Colchester, Conn.



WIRE • FENCE

Heavy lateral wires, heavy hard steel stays, rolled spring wire, Sure Grip Lock. In strength, appearance and durability, the Hard Steel cannot be excelled. Write for catalogue and prices. THE HARD STEEL FENCE CO., Cuyahoga Falls, O.



WIRE \$1.40
PER 100 LBS.

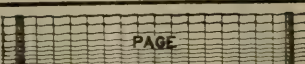
SMOOTH GALVANIZED WIRE put up 100 lbs. to a bale, gauges from 11 to 14 inclusive. Lengths running up to 20 ft. Per 100 lbs. \$1.40. Fence Staples, all sizes, per 100 lbs. \$2.00. Wire Nails, assorted in a bag, per 100 lbs. \$1.75. Barbed Wires, per 100 lbs. \$2.50. Poultry Netting, Field Fence, etc., at low prices. Ask for free catalogue No. 14 on merchandise of all kinds from Shier's and Receivers' sales CHICAGO HOUSE WAREHOUSE CO., 325 & 326 N. LaSalle.



**Genuine Spiral Spring Wire
FENCES AND GATES**

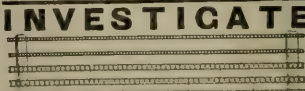
If your dealer does not have your goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency.

INTERNATIONAL FENCE AND F. CO.
Columbus, Ohio.



IF A HEAVY HORSE

should run into Page 23-Bar Poultry Fence It would stop him, and not damage his horse or fence. PAGE WOVEN WIRE FENCE CO., Adrian, Michigan.

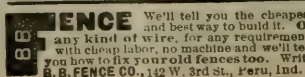


the Wire Board fencing carefully; compare it with others, then buy which you think strongest, most durable and Economical. If you do this we are willing to abide by your decision. Write for free sample. The Truss & Cable Fence Co., 610 Cuyahoga Bldg., Cleveland, O.



LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Churches. Address COILED SPRING FENCE CO., Box 30 Winchester, Ind.



FENCE We'll tell you the cheapest and best way to build it. Of any kind of wire, for any requirement, with cheap labor, no machine and we'll tell you how to fix your old fence too. Write B. B. FENCE CO., 142 W. 3rd St., Peru, Ind.



**No Money
In Advance.**

We will send any
responsible farmer a

DITTO'S

Triple Gearing, FEED GRINDER

to test on his own farm. Grinds ear corn and all small grain. If it is not the easiest running, with largest capacity, don't keep it. It is strong and powerful—a time saver and a money maker. Send for circulars and full particulars.

G. M. DITTO, Box 48 Joliet, Ills.

FEED MILLS.

Every Man His Own Miller.

The latest improved. Does all kinds of work. Most durable; has ground over 15,000 bushels without repair or expense. The fastest grinder; has ground 300 bushels in 4 hours. Lightest draft and lowest price. **The World's Best!** Send for prices to the manufacturers.

N. M. FIELD MFG. CO., St. Louis, Mo.

Make Your Own Fertilizer

at Small Cost with

Wilson's Phosphate Mills



From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Graham Flour Hand Mills, Sift and Sort Mills. Send for catalogue.

WILSON BROS., Sole Agents,
Easton, Pa.



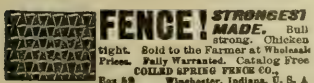
PIPE. Good second-hand Wrought Iron Steam, Gas or Water Pipe, in sizes from one half to twelve inches diameter. It is complete with flanges and couplings. 1 inch, per foot, \$1.10 cts. 1 1/2 inch, per foot, 41.4 cts.

We handle all kinds of well casing. Write us your wants in the pipe line. We have all kinds of supplies of this character. Write for Free Catalogue No. 166. CHICAGO HOUSE WRECKING CO., West 54th and Iron Street, Chicago.

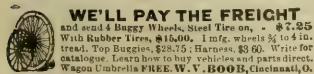
SENT ON TRIAL

A Fence Machine that will make over 100 Styles of Fence and from 50 to 70 rods a day.

AT ACTUAL COST OF WIRE. High-tensile, Blue-tensile, Pig and Chain-link Wire at Wholesale Prices. Catalogue Free. Kitzelman Bros. Box 165 Muncie, Ind.



FENCE! STRONGEST MADE. Ball strong. Chicken tight. Sold to the Farmer at Wholesale Prices. Fully Illustrated. Catalogue Free. COLLARD SPRING FENCE CO., Box 49 Winchester, Indiana, U. S. A.



WE'LL PAY THE FREIGHT and send 4 Baggy Wheel, Steel Tire on, - \$7.95 With Rubber Tires, \$14.00, 1 1/2 in. wheel, \$5 to 6 in. tread, Top Buggies, \$28.75; Harness, \$5.00. Write for Catalogue. Learn how to buy vehicles and parts direct. Wagon Umbrella FREE. W. V. BOOTH, Cincinnati, O.

A. D. REYNOLDS, Bristol, Tenn.,

Will consider the purchase of a good, second-hand STUMP PULLER, if the right make.

A STUDY IN MONEY ORDERS.

Sixth Auditor Castle Shows a Group of Congressmen the Complexities of the System. Instructive Object Lesson. Post Check Currency Would Give Better Satisfaction With no Cost to the Government.

An object lesson, showing the effects and expensiveness of the postal money order system, was given a few days ago to several members of the House Post-office Committee by Captain Henry A. Castle, Auditor for the Post-office Department.

Mr. Castle first conducted his visitors to the "Auditor's library," as it is called. Here are 7,000 loose-leaved binders each making a volume larger than the largest counting-house ledger, and weighing fifteen pounds. These 7,000 binders are filled annually with postmaster's statements of money orders issued and paid, which are sent to the Auditor's office with the 46,000,000 money orders issued annually, as vouchers.

The party next visited the "Machine room," where scores of high-salaried clerks were operating adding machines which verified the additions of the money order statements sent in by postmasters. More than 150,000 orders are daily handled in this room.

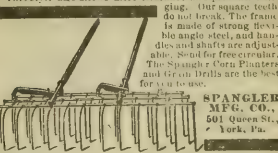
The visitors then went to the "Round table" room where other clerks were distributing an average of 150,000 money orders daily. The orders are thence taken (and the party followed them) to forty desks where nimble-fingered operators, mostly young women, separate them by towns in each State, arranged alphabetically.

The money order vouchers are now ready to be checked with the accounts of the issuing postmaster, and thirty-five expert clerks were found doing this. From the checkers, the money orders are tied in bundles, properly labelled and filed in the archives of the Auditor's office for seven years, as required by law. The postmasters' statements, constituting the accounts, are filed in the loose-leaf binders as described, and are ready for entry in the ledgers of the Bureau where the accounts are kept. The 7,000 volumes of the statements are preserved also for a term of seven years.

The effect on the visiting Congressmen was startling. They learned also that the majority of orders are for less than \$2.50 each. For their issue 3rd and 4th class postmasters get the entire fee of three cents. First and second class postmasters employ high-salaried clerks for this work, and the cost to the service is still greater. The paying of the orders, the bookkeeping, and the transmitting of them to Washington, entail a heavy outlay for salaries, without a penny of compensating revenue; so that, in addition to the loss of time, in going to the post-office, applying for money orders, and awaiting their issue, is this additional

THE YORK Improved Weeder

The flexibility of the teeth is the important point in a weeder. The York Improved Weeder has teeth of square spring steel with round points. These teeth have an elasticity, and being narrow in the body they do not whip or bruise the growing plants as flat teeth do. This style also allows more clearance and prevents clogging.



Our square teeth do not break. The frame is made of strong heavy, bi-angle steel, and handles and shafts are adjustable. Send for free circular. The Spangler Corn Planter and Iron Drills are the best for various uses.

SPANGLER MFG. CO., 501 Queen St., York, Pa.

It's the Saving of cream, ease of running and easy cleaning that people are looking for in Cream Separators. These are strong points with the

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For the Proof try it on your own premises before buying. We rely on its work to sell it to all. Everybody likes its popular price. Catalog free for the asking.

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Don't Waste Your Strength. Use

BAKER'S TRACELESS HARNESS.

No whittles—no traces. Fine for farm or city. Has no equal for use in orchard, vineyard, garden, lumbering, etc. Easier on man. Write us now. Catalog free. Agents wanted.

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CHANDLER & CHANDLER, Patent Attorneys
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AN INSTANT'S PAIN and the dehorning job is smoothly done, no crushing or bruising if the

KEYSTONE

Dehorning Knife

Is used. Easy, sure and most speedy in operation. No well resins can be used. Cuts from four to six teeth. Endorsed by veterinarians. Guaranteed.

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ATEST (Newton's Patent)

DEHORNER


Every Dehorner Guaranteed

IMPROVED THOUSANDS IN USE.

Ask your hardware dealer for the nearest write

H. H. BROWN MFG. CO., • • DECATUR, ILL.

WE PAY \$33 A WEEK and expenses to men with rigs to introduce Poultry Compound. International Mfg. Co., Parsons, Kan.



A man in Virginia whose tobacco crop astonished his neighbors sent us a photograph that shows how it was done. This tobacco was all planted the same day and fertilized alike except that on the left received a Top Dressing of

Nitrate of Soda

(THE STANDARD AMMONIATE)

100 pounds to the acre, and that on the right received none. Any eye can see it was profitable. Anyone interested in getting the best crops from his land will find information worth reading in the Bulletin which I send free to farmers. Actual results, from the trial grounds of Agricultural Experiment Stations with all sorts of crops are given, together with all information on the use and value of Nitrate in fertilizing. Send name and complete address Post Card.

WILLIAM S. MYERS, Director,
12-16 John St., New York.

SAN JOSE SCALE

and other insects
can be con-
trolled by using

GOOD'S CAUSTIC POTASH WHALE OIL SOAP, No. 3.

It also prevents Curl Leaf. Endorsed by entomologists. This soap is a fertilizer as well as insecticide. 60 lb. kegs, \$2.50; 100 lb. kegs, \$4.50. Half barrels, 270 lbs., at 35c. per lb.; barrels, 425 lbs., at 35c. Large quantities, special rates. Send for circular.

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Axle Grease

Best in the world.
Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand. Not affected by heat. Get The Genuine.
FOR SALE BY ALL DEALERS.

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Send for Circulars and Price-List

FELLSWORTH LIME WORKS,

REEVES CATT, Agent,

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ROOFING TIN

Iron and paper roofing, nails, builder's hard ware, sash, doors, etc., carriage and wagon goods, paints and oils, cook and heating stoves, guns, pistols, rifles. "Robin Hood" loaded shells. Do you use any of the above? Write us.

HARRIS HARDWARE CO., 499 E. Broad,
Richm'd, Va.

Mention the SOUTHERN PLANTER in writing.

pecuniary loss to the government.

When the tour of the office had been ended the visitors asserted that Congress should, without delay, adopt some plan whereby this expensive and burdensome work could be reduced, or, at least, its enormous growth discouraged.

The remedy for much of this evil lies in the adoption of the post check plan, as post check currency would require no auditing. The bill embodying this plan is now before the House Committee on Post-offices. A favorable report on it is expected at an early day, and it is hoped that favorable action by the House will not long be delayed. Urge your representatives at Washington to support the bill.

HIGH BRED ENGLISH SETTERS.

Mr. William G. Owens, of Midlothian, owner of The Cedars poultry and stock farm, has just added to his collection of high bred, a pair of English Setter Gips that are entirely worthy to join the colony of blue blooded bird dogs of Virginia and they will no doubt be heard of in the Virginia Field Trials Association meetings in the future. The most noted of the two dogs is Miss Cambria A. K. C. No. 30064, by Manitoba Gladstone dam the blue belted imported field trial winner. Jeannie Deans, said to be the fastest dog ever seen in America. Manitoba Gladstone A. K. C. No. 7157, also a blue belted one, is by Mark J. dam Cambria, a grand daughter of Champion Gladstone, who won four field trials and sired twenty-five winners who won forty-nine trials and great grand daughter of Champion Leicester, sire of six field trial winners who won seventeen trials. Miss Cambria is a beautiful black and white and a great field dog.

The very worthy sister mate of Miss Cambria is the bench winner Doningtons Song, A. K. C. No. 78574, black white and tan by Larry Noble, he by Ezra Noble dam Cornelia G, she by Champion Gladstone dam Cornelia by Champion Leicester. Ezra Noble is by Imported Champion Count Noble who won four trials and sired twenty-nine winners who won fifty-four field trial purses. Song is not only a splendidly bred dog, but is very handsome and stylish with a powerful well knit symmetrical frame and in show conditions weighs fifty-five pounds.

Both dogs have been sent to Mr. Owens' country home at Midlothian, Va., and will be bred during the coming spring. Song will be entered in all the kennel shows in this locality next fall and winter and it is possible that Miss Cambria may be seen in the field trials at Chase City next fall.

A receipt for making Liquid Fertilizer goes free with every Setter. Read Masters Planter Co.'s ad. on another page.

LAMP-FITS.

How do you know what chimney fits your lamp?

Your grocer tells you.

How does he know?

He don't.

Do you then?

That's about how lamps are fitted with chimneys by people who don't use my Index; and they complain of bad chimneys! Lamp-Fits indeed! Do you want the Index? Free.

MACBETH, Pittsburgh.

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HIAWATHA, two-step or vocal. THE RAJAH,

march. LAUGHING WATER, intermezzo.

KNIGHTS AND LADIES, waltzes.

[VOCAL]

DOWN ALABAMA WAY, new hit.

BY THE DREAMY SUSQUEHANNA.

WHAT BECOMES OF THE BROKEN TOYS

ANY RAGS, DEBELIA, and 3000 others

CATALOGUE FREE.

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Our book "Practical Ideas for Profitable Home Work" teaches women how to become independent without leaving home. It is clear and practical, covering many lines of work. The finding of a market for your goods is thoroughly discussed, and valuable suggestions are given. Book sent on receipt of postal order for 50 cents
Woman's Work Pub. Co., Amer. Tract Bldg., New York City.

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As farm manager, by a thoroughly competent man. Have had large experience and can furnish best of references. Apply to W. H. ELLERINGTON, Naples, N. Y.

SECRET

DENEVOLENT SOCIETY FOR FARMERS AND THEIR WIVES. Pays \$10 weekly sick, \$20 weekly accident and \$2,000 death benefit, and \$50 old age pension. Organizers wanted; good pay. KNIGHTS OF AGRICULTURE, Washington, D. C.

WARNER'S

CORRESPONDENCE SCHOOL, at Bradford, Pa., teaches Shorthand, Bookkeeping and Penmanship by mail. Write now.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

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Bone Spavin, Bog Spavin, Ringbone or any kind of blemish—we have what you need to make a certain cure. Guaranteed always—money right back if it ever fails.

Fleming's Spavin Cure (Liquid)

for the soft bunches—Paste for the hard ones. A 45-minute application and the lameness goes. Lots of blemish information in the free book we send.

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Do yourself what horse doctors charge big prices for trying to do. Cure Fistula or Poll Evil in fifteen to thirty days.

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is a wonder—guaranteed to cure any case—money back if it fails. No cutting—no scar. Leaves the horse sound and smooth. Write for our free book on diseases and blemishes of horses.

FLEMING BROS., Chemists,
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DAVE E. FOUTZ
BALTIMORE, MD.

A medicine which makes sick animals well, the diseased whole, the weak strong and the thin fat. It will restore lost Appetite, expel Worms and cure Chronic Cough, Heaves, Indigestion, Diarrhoea, Hiccough, Indigestion, Constipation, Flatulency and all Stomach and Bowel trouble.

The finest of all animal medicines and tonics and the only one which increases the coefficient of digestibility of proteins.

Get the Genuine and avoid cheap imitations. Paraffin No. 1 Free. 25¢ per 1/2 lb. 50¢ per 1 lb. 100¢ per 2 lbs. 200¢ per 4 lbs. 400¢ per 8 lbs. 800¢ per 16 lbs. 1600¢ per 32 lbs. 3200¢ per 64 lbs. 6400¢ per 128 lbs. 12800¢ per 256 lbs. 25600¢ per 512 lbs. 51200¢ per 1024 lbs. 102400¢ per 2048 lbs. 204800¢ per 4096 lbs. 409600¢ per 8192 lbs. 819200¢ per 16384 lbs. 1638400¢ per 32768 lbs. 3276800¢ per 65536 lbs. 6553600¢ per 131072 lbs. 13107200¢ per 262144 lbs. 26214400¢ per 524288 lbs. 52428800¢ per 1048576 lbs. 104857600¢ per 2097152 lbs. 209715200¢ per 4194304 lbs. 419430400¢ per 8388608 lbs. 838860800¢ per 16777216 lbs. 1677721600¢ per 33554432 lbs. 3355443200¢ per 67108864 lbs. 6710886400¢ per 134217728 lbs. 13421772800¢ per 268435456 lbs. 26843545600¢ per 536870912 lbs. 53687091200¢ per 1073741824 lbs. 107374182400¢ per 2147483648 lbs. 214748364800¢ per 4294967296 lbs. 429496729600¢ per 8589934592 lbs. 858993459200¢ per 17179869184 lbs. 1717986918400¢ per 34359738368 lbs. 3435973836800¢ per 68719476736 lbs. 6871947673600¢ 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Salzer's National Oats.

Most prolific Oats on earth. The U. S. Dept. of Agriculture, Washington, says: "Salzer's Oats are the best out of over four hundred sorts tested by us." This grand Oat yielded in Wisconsin 156 bu., Ohio 187 bu., Michigan 231 bu., Missouri 225 bu., and North Dakota 310 bu. per acre, and will positively do as well for you. Try it, sir, and be convinced.

A Few Sworn to Yields.

Salzer's **Boardman Barley**, 121 bu. per A. Salzer's **Boardman Oats**, 281 bu. per A. Salzer's **Big Four Oats**, 258 bu. per A. Salzer's **New National Oats**, 310 bu. per A. Salzer's **Potatoes**, 725 bu. per A. Salzer's **Beans**, 1,900 bu. per A.

All of our Farm and Vegetable Seeds are pedigreed stock, brought up to big yields.

Salzer's Speltz (Emmer).

Greatest cereal wonder of the age. It is not even now wheat, nor rye, nor barley, nor oats, but a golden combination of them all, yielding 80 bu. of grain and 4 tons of rich straw lay per acre. Greatest stock food on earth. Does well everywhere.

Salzer's Million Dollar Grass.

Most talked of grass on earth. Editors and College Professors and Agricultural Lecturers praise it without stint. Yields 14 tons of rich hay and lots of pasture besides, per acre.

Salzer's Teosinte.

Salzer's Teosinte produces 119 rich, juicy, sweet, leafy stalks from one kernel of seed, 14 feet high, in 30 days, yielding 15 tons of green fodder per acre, doing well everywhere, East, West, South or North.

Grasses and Clovers.

Only large growers of grasses and clovers for seed in America. Operate over 100 acres. Our seeds are warranted. We make a great specialty of grasses and clovers. Fodder Plants, corn, potatoes, onions, cabbage, and all sorts of Vegetable Seeds.

For 10c in Stamps

and the name of this paper, we will send you a lot of farm seed samples, including some of above, together with our magnificent 14 page illustrated catalogue, for but 10c in postage stamps.

Send for same to-day.

JOHN A. SALZER SEED CO.
LA CROSSE WIS.

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ALWAYS RELIABLE AND BEST

Because they are fresh and NEW. Strictly Iowa grown and Sown to grow. Our big Twenty-two Annual Illustrated Catalog tells you all about every Farm and Garden Seed and crop that grows. It's Free if you mention this paper. No Fakes; Free Seeds; Trash and other Schemes; But good reliable Seeds cheaper than others sell at wholesale. If in want of Seeds send for our Catalog to-day. **RATEKINS' SEED HOUSE,**

Shenandoah, Iowa.

WASHINGTON NOTES.

No better five and three quarter million dollars can be appropriated by the government than that carried by the agricultural appropriation bill as it passed the House, although this action does not mean that it may not be largely increased or decreased in the Senate and in conference before it becomes a law. There may be some things in which could be eliminated, without great harm to the country, and there are certainly some sections where additional appropriations would be highly advantageous. Those Congressmen who need help for reelection will doubtless vote with avidity for the \$290,000 appropriation for seed distribution. And right here in this section of the bill is a proviso, which, did the majority of Congress possess the statesmanship to grasp its possibilities, points the way to an opportunity to put America head and shoulders above other countries, agriculturally, now and forever. This proviso sets aside \$40,000 to be used in agricultural exploration in foreign lands and the procurement and test in this country of "rare and valuable seeds, bulbs, trees, shrubs, vines, cuttings and plants with reference to their introduction into this country."

With a similar pittance during the last two or three years the explorers of the Department have brought into the United States new and improved species and varieties which are certain to bring us millions of dollars annually. Macaroni wheat is a single instance. This can be grown over a belt of millions of acres, too dry for producing ordinary wheat.

Two hundred and ninety thousand dollars! An annual sum sufficient to equip the present little section of Plant Introduction of the Department with machinery which would reach every corner of the globe and search out every growing thing which might be raised in this country and test it thoroughly for a series of years in every section where it would be likely to thrive. Then, as such introduction were found to be useful they could be distributed in sufficient quantities among farmers, through the campaigning Congressmen, if you will, so as to be of some real benefit to the farmer and to the nation. Most certain it is too that the distribution of such things of real value would assist the re-election of statesmen much more than the distribution of the seeds which, as a matter of fact, will result from this appropriation.

The Bureau of Animal Industry gets \$1,287,680, of the agricultural appropriation bill. An interesting proviso of this section of the bill is the inspection by the Department of butter, cheese and other dairy products intended for exportation to any foreign country, after the methods employed in meat shipments. The Bureau is to ascertain the "purity and quality of

TREES! TREES!!

I offer a fine lot of whole root trees.

Apples, Pears, Peaches, Cherries, Plums, Grape Vines, Raspberries, Etc.

Save Agent's commission by sending your orders to the nursery.

CATALOGUE FREE.

All Stock Inspected and Fumigated.

WERTZ'S NURSERY, Salem, Va.



Premo Dewberry

The earliest and most productive blackberry variety. Very large, jet black, firm and solid. Crop ripens rapidly. This is the berry to plant for profit. Write at once for prices and particulars. Myer & Son, Bridgeville Nurseries, Bridgeville, Del.

Peach and Apple Trees,

BONAVIDA NURSERIES, Greenwood, Va.

We offer a fine lot of choice trees for Fall and Spring planting

Our apple trees are the best—Wine Sap, Mammoth Black Twig, York Imperial and Albemarle Pippin, all perfect and well grown trees.

Our peach trees are the standard sorts, Stump, Elberta, Bileyn's (Comet), Wonderful, Champion, Globe, Pique's Late, Albright's Winter, Crawford E. & L., etc.

We send out none but good trees and have never had a complaint made by any purchaser of our stock. Order soon, especially Peaches, as good trees will be very scarce this season.

CHAS. F. HACKETT, Manager.

ALFALFA

If you expect to sow Alfalfa, why not start right, by inoculating your soil with the Bacteria of Alfalfa, the presence of which, we are told by the scientists is necessary for the proper vitality of this, the most valuable forage plant.

2 bushel bags, \$1.00 F. O. B. Ewell's, Tenn. from a plot showing nodules in great abundance. Address **GEO. CAMPBELL BROWN,**

EWELL FARM. ... Spring Hill, Tenn.

\$240 FOR LARGEST WATERMELONS

After 40 years of experimenting and testing all notable varieties of watermelons, we now recommend, especially, "Enterprise" for home use and "Kearsley" for both home and market. We think they are the best obtainable seeds on a paper in silver. 24,000 papers. The purchaser who uses the largest union of either variety will positively receive one-tenth of our gross sales of seeds of that variety. Caution: Wrap your silver in a little paper, and write your name and P. O. Address plainly.

LEE SEED CO., Burnt Corn, Ala.

42 TONS CLOVER To the Acre.

Egyptian Clover—Direct from the Nile Valley

Imported by us into the United States for the first time. Ready to cut 48 days after sowing. First cutting 14 tons, second cutting 15 tons, third, 13 tons of green forage per acre, all in one season. The Dept. of Agriculture at Washington publishes a special bulletin endorsing it. The supply of seed is limited. Write at once if interested. Price per lb, by mail 40c; 10 lbs. \$3.75; 100 lbs. \$25.00.

LARGE ILLUSTRATED CATALOG describing this wonderful Clover and a thousand other things of great value to the Farmer or Gardener, mailed free. Write now.

CURRIE BROS. CO., Seedsmen, Dept. 43, MILWAUKEE, WIS.

such dairy products, and may cause the same to be so marked, stamped or labelled as to secure their identity and make known in the markets of foreign countries to which they may be sent, their purity, quality and grade."

The Secretary of Agriculture is allowed \$15,000 to improve and continue the Arlington experimental farm, which in many ways is to be the This tract of about 400 acres of government land, a part of the old Rob model experiment farm in the country. ert E Lee estate, is well situated for a farm and allows the scientists of the Department at Washington who are likewise practical agriculturists, an excellent opportunity for carrying out tests and experiments.

The agricultural bill carries \$10,000 "to enable the Secretary of Agriculture to investigate and report on the cost of "making" tea and the best method of cultivating and preparing the same for market, so as to demonstrate whether it is practicable to introduce its culture in the Southern States as a profitable industry." Judging from the wording of this section of the bill the Department is likely to be required to establish tea saloons where the practical cost "of making tea" may be demonstrated, unless "making" tea can be construed into growing that article, which is no doubt the intention of the appropriation.

No work of the Department of Agriculture has increased with greater rapidity than forestry. From an insignificant appropriation of \$30,000 as I remember, six or seven years ago the present agricultural bill appropriates \$400,000 for its Forestry Bureau. Not only this but a special bill will doubtless pass Congress transferring the sixty odd million acres of forest reserves to this bureau.

The agricultural bill specifically authorizes the Chemist of the Department to inspect importations of goods which may be adulterated and dangerous to health, the Secretary of the Treasury furnishing samples from original packages of such importations for inspection and analysis. Broad authority is given the two departments to restrict and refuse the admission of deleterious foods, or those falsely or incompletely labelled.

Anthrax spores are very tenacious of life and will remain dormant for years; in certain cases on record soil has remained infected for twelve years. The spores are also readily transmitted and one instance is known where the disease was carried some distance on the boots and clothing of a person who had been aiding in a post mortem examination. Hides and wool are probably the most important factor in the spread of the disease. Nearly all the domestic animals are subject to it—horses, mules, cattle, sheep, swine, goats, cats, dogs and



THE NEW STRAWBERRY

that I introduced last season has again proved a wonder basket cropper, best seller of them all. 40 other kinds to offer; healthy, heavy rooted; true to name. My plants please all that plant them. They grow large crops of fine berries, and price low. The best hand fertilizer sower ever used. Plymouth Rock eggs, etc. Write to-day for free catalogue. J. W. HALL, Marion Sta., Md.

SAFONI SEED CORN

A beautiful white variety and a wonderful yielder: 2 to 4 large ears to a stalk; don't fail to try it.

HIGH GRADE RED POLL and Aberdeen Angus Cattle, both sexes.—Address, LOUIS B. GILLILAND, Jr., Clarksville, Va.

Seed Corn! Seed Corn! BIG SHIVERY.

One of the best field varieties in cultivation. Large, long grains and very small cob. Pure white and makes the best bread meal of any corn grown. An immense yield on good land. On trial will convince any one of the merits of this popular variety. Price, 35c; peck: 60c; half bushel; \$1 per bushel. H. J. CONRAD, Thomasville, N. C.

PEDIGREED SEED CORN.

Three varieties pure white corn. Huffman, large, late, for fertile soils only. Improved Watson, medium, for medium soils. Hickory King, especially adapted for cultivation on the uplands. Price, \$1.20 per bush., f. o. b. Normandy. PROGRESS FARM, Box 52, Normandy, Tenn.

FOR SALE

Selected Pride of York Seed Corn.

It grows well, matures early, weighs well, makes lots of good fodder.

J. TABB JANNEY, Van Clevesville, W. Va.

SEED CORN FOR SALE.

I have a nice lot of Hickory King Seed Corn for sale. Large deep grains. The corn for this lands and droughty weather. 90c. per bushel here, sacks extra. C. S. TOWNLEY, Red Hill, Va.

AGENT - WANTED

Good man in every county to sell

Osgood Standard Sacks

For sterc, Factory and Farm.

most complete line made 1904—Patterns Steel Lever Lock Sacks are beauties. Prefer man experienced in selling machinery and implements. Fine catalogue. No samples. Can be handled nicely as side line. Liberal contract. Exclusive agency. Have you that man in mind. Show him this paper. He can make money. We want him now. Act quick. Osgood Sack Co., 137 Central St., Binghamton N. Y. Largest makers of Farm Sacks in this country.

FOR SALE.

A Dederick Steel Belt Hay Press,

In good order. Will sell at \$150— a bargain for cash.

J. M. STEGER, Hutton, Va.

New Strawberryeries.

MARK HANNA. The most wonderful berry in cultivation! 1,000 bushels per acre.

THOMPSON'S No. 2, largest firm fancy berry, and

THOMPSON'S No. 3, a seedling of Lady, handsome and firmer than parent. No one will grow Lady who can get No. 3.

150 Varieties, including Thompson's Earliest

Ripe here April 19th the last season. If you want the earliest plant them, Thompson's No. 3, a seedling of Lady. But superior in every way, beautiful color, immensely productive, firmer, best shipper ever put on the market. Thompson's new berries are acknowledged to lead all others.

Cabbage Plants, Tomato, 5,000 Hardy Monthly Rose, California Privet Dahlias, Chrysanthemums. Send for my spring catalogue. MARK T. THOMPSON, Rio Vista, Va.

We offer all kinds of :—

..Nursery stock.

STRAWBERRY PLANTS at reduced prices; 1 doz. rooted GRAPE VINES of CONCORD, NIAGARA, WARDEN, etc., at \$1; all healthy stock and fumigated before shipped; grown on ideal land for fine roots and smooth bodies.

Send for Special Price to Planters.

EMPORIA NURSERIES EMPORIA, VA.

No. 1 Agents wanted. We refer to any business house here as to our honesty.

Strawberry Plants,

All grown in fresh rich ground, healthy, well-rooted plants that will please you; over 30 kinds to offer. Raspberry plants and Peach trees also; see us before you buy. Our stock has been thoroughly inspected and found free from any disease.

Address JOHN LIGHTFOOT, Sherman Heights Tenn.

Strawberries



300 Choice Plants, Express Prepaid for \$1.50.

100 each of early, medium and late. None stronger or better. Offer good to any express office in U.S. It pays to get the best. Beautiful Strawberry Catalogue Free.

W. F. Allen, Salisbury, Md.

FARMS FOR SALE!

No. 27.

Seventy-five acres of fine Blue Grass Land, in Rockbridge county, Va., situated one and a half miles from B. & O. R. R. station, near Lexington, Va., in a progressive and refined neighborhood. Twenty-five acres is sowed to wheat and grass, and the balance is in grass; 2 acres in orchard consisting of apples, pears and peaches, age of trees 2 to 15 years old, all selected fruit. This farm is rolling and all the land faces the south and east. Beautiful large spring in a few yards of the house, also good cistern. One-half acre in strawberries. The improvements consist of a 9-room, 2-story brick house, a large barn, 55x70, with all other necessary outbuilding, all in excellent repair. The land is smooth and rich and well fenced. There is 23 ewes and over 30 lambs on this farm and if the farm is sold before March 24th the sheep and lambs and wheat crop with the farm can be bought for \$2,500—one-half cash, balance on five years time. If not sold before the 24th the farm and personal property will be sold at public sale on the 24th of March. Write quick for further information and a more detailed description.

No. 17.

80 acres—15 acres in hardwood, balance in grass, except 20 acres for corn. Fronts on pike; 5 miles from railroad station. Watered by large branch. All in good state of cultivation. No buildings. Price \$18.00 per acre. Easy terms.

No. 5.

Contains 163 acres; one-half under cultivation; balance in second-growth timber. Good seven-room dwelling and necessary outbuildings; good orchard in fine fruit section. Farm lies near Southern railroad, twenty miles from Washington; well watered; a splendid dairy farm. Price, \$2,000.

No. 16.

120 acres—20 acres hardwood, balance in good state of improvement, and a splendid quality of red clay subsoil; 50 acres in wheat and timothy; 20 acres in meadow, balance is new land, and will be for corn next spring. Situated in excellent neighborhood of refined people. Twenty-two miles from Washington, 5 miles from Herndon Station. Fronts on pike. Comfortable 4-room house and all buildings. Farm watered by large branches. Price, \$20.00 per acre. Terms, to suit purchaser.

I have a number of other good farms for sale, both large and small. Write for description and state just what you want, and will be glad to serve you.

W. E. MILLER, Herndon, Va.

even man. Sheep are believed to be the most susceptible.

Another good roads bill has been introduced by Representative Aiken, of South Carolina, which in common with most of the other good roads measures creates a Bureau of Public Highways and appropriates \$24,000,000 of Uncle Sam's hard earned cash.

Senator Teller, of Colorado, has introduced a bill of importance to the West authorizing the Secretary of Agriculture to conduct and carry on a series of experiments, in conjunction with the experiment stations, in the non-corn growing States and Territories, in the breeding, rearing and finishing of live stock for market; in the introduction and development of breeds of horses, cattle, sheep and swine, suitable for such regions and conditions, and also in the introduction and cultivation of crops and forage plants, other than Indian corn which may prove of value to those States. The bill appropriates \$50,000 for the coming fiscal year and \$50,000 each for the four succeeding fiscal years. The money received by the department from the sale of stock raised is to be used over again in continued experiments.

A good practice with fowls seems to be to throw them, early in the morning, a few handfuls of small grain, or cracked wheat, or cracked corn among a large amount of trash. After they have searched and exercised diligently for a half hour they will be in fine form for breakfast, to get which, however, should require some exercise.

It is always a good idea to make a small bed and sow a dozen short rows of onion seed for growing "sets" for next year. The largest of these sets will make fine little pickling onions. Sets sell at 20 to 25 cents a quart and it is more of a pleasure than a trouble to raise a peck of them from such a little bed as above noted.

The exports of breadstuffs since the beginning of the fiscal year July 1, are much the lowest of any seven months period during the last six years, being only \$103,000,000, against \$129,000,000 a year ago and \$168,000,000 for the corresponding seven months of 1899. The exports for January were \$13,000,000 against \$19,000,000 January a year ago and against \$16,000,000 in December, 1903.

Exports of cattle, hogs and sheep have been large during January, being \$4,055,000, being the only \$4,000,000 mark reached in any month during the last four years. The exports for the fiscal year, thus far, have been \$23,000,000 against \$14,000,000 for 1903 and \$19,000,000 for 1902.

Exports of cotton for December and January, so far as value is concerned, have been record breakers as compared with those months of others years. December exports were \$72,000,000 and January \$46,000,000

You get full face value, every time you buy Williams' Shaving Soap.

Sold everywhere. Free trial sample for 2-cent stamp to pay postage.

Write for booklet "How to Shave."

The J. B. Williams Co., Glastonbury, Ct.

●●● VIRGINIA FARMS ●●●
Nice little poultry farm, 100 acres, good house and orchard, \$500.00. Blue Grass, Stock and Fruit Farms. Address PORTER & GATES, Louisville, Va.

VIRGINIA FARMS
\$3 PER ACRE AND UPWARDS.
EASY PAYMENTS. CATALOGUE FREE.
GEO. E. CRAWFORD & CO., Richmond, Va.
Established 1875.

Go South. For full particulars write A. JEFFERS, Norfolk, Va.

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Homes for ALL; Health for ALL; Happiness and Independence for ALL. All sizes of FARMS at corresponding prices, but ALL reasonable.
MACON & CO., Orange, Va.

FINE FARMS in the great fruit grain and stock section of VIRGINIA. Best climate and water in the U. S. Near great markets, with best educational advantages. For further information, address ALBEMARLE IMMIGRATION CO., SAM'L B. WOODS, Pres. Charlottesville, Va.

I Can Sell Your Farm...
If located in one of these Virginia counties: Prince George, Chesterfield, King William, Gloucester, New Kent, King and Queen, Hanover. Send description, stating price.

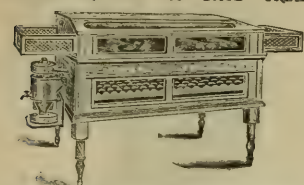
JOHN JELINEK, 1116 Pine Alley, Braddock, Pa.

..To Homeseekers..
"THE BUSINESS OF FARMING IN VIRGINIA."

Is the title of a new pamphlet issued by the Norfolk and Western Railway Company. We will gladly mail you a copy.

W. B. BEVILL, PAUL SCHERER, Asst., G. P. A., Lands and Immigration, Roanoke, Va.

INCUBATORS - ON - 30 - DAYS - TRIAL.



A certain and never failing Business Hatchery. Reasonable in price; best in quality, and always reliable. Thousands of these machines are in successful operation here at home and abroad. Our handsome catalogue is free for the asking, send for a copy at once, before you select a machine and make a mistake. Address The Standard F. C. Incubator Co., Dept. 23, Rochester, N. Y. Mention this Journal.

Genuine CYPHERS Patented INCUBATORS

ARE GUARANTEED

- To hatch a larger percentage of fertile eggs,
- To produce larger and more vigorous chicks,
- To operate with less oil and expense,
- To require no supplied moisture,
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- To have a more sensitive, accurate and durable regulator,
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- To be more strictly automatic in action and
- To give better results in your hands than any other make or style of incubator in the world.



Seven years test has proved our claims. We have had more guarantees by every dollar we have received. If the Cyphers does not do satisfactory work in your hands, you get your money back. Refunded and adopted by 50 Government Experiment Stations and used by a large majority of the leading poultry men. Catalog for 1904 free if you name this paper. Address nearest office.

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IT IS A FACT

that poultry pays a larger profit for the money invested than any other business; that anybody may make a success of it without long training or previous experience; that the Reliable Incubators and Brooders will give the best results. Our 20th Century Poultry Book tells just why, and a hundred other things you should know. We mail the book for 10 cents. Write today. We have 15 yards of tin-roofed poultry. RELIABLE INCUBATOR & BROODER CO., Box B-11 Quincy, Ill.

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Never outclassed—Sure Hatch Incubators. Built better than your house. No hot centers; no chilling draughts on sensitive eggs. Every cubic inch in egg chamber at uniform, blood temperature of fowl. It's continual pleasure to hatch nearly every fertile egg with a Sure Hatch.



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tells why our machine is preferred by users and all about artificial incubation. There's pointers that may mean dollars to you. We pay freight. Guarantee goods as described or money back. The book is free. Write for it today. Postal will do. GEO. ERTTEL CO., Quincy, Ill.



SPECIAL OFFER to the readers of this paper.

We will sell a Hundred and Ten Egg

"MICHIGANDER"

Hot Water Incubator only \$10

and allow you to try it for 30 Days Free. Tried

and known to be perfect. Get a Catalog Free.

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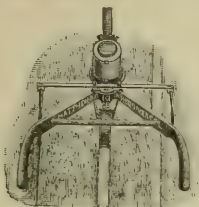
SURE GUARANTEED CURE FOR GRANULATED Eyes. My remedy will make you eyes strong. Write for particulars. Address L. A. MILLS, Emporia, Kansas.

against \$46,000,000 for December and \$39,000,000 for January a year ago and \$43,000,000 for December and \$40,000,000 for January two years ago. The total exports of cotton since July 1, 1903, seven months, were \$275,000,000 against \$206,000,000 in the corresponding seven months of both 1903 and 1902, against \$215,000,000 in 1901 and only \$133,000,000 in 1900.

GUY E. MITCHELL.

NEW UNIVERSAL GARDEN TOOLS.

By way of calling attention to the excellent line of hand garden tools manufactured by our advertising patron, the Ames Plow Company, of Boston, we are producing herewith a cut of their Matthews' New Universal



Seed Drill. The Seeder drops so the operator can see the seed in the ground before the action of covering and rolling attachments. The Garden Drill might be termed the unit of the famous Matthews group of all purpose tools. The plow for furrowing and ridging is one of them. The wide and narrow tooth cultivator is still another, followed by the hoe for weed cutting and top soil stirring, and rake for pulverizing and smoothing. The Seeder may be purchased alone, or for a small amount a combination tool, combining all the above in one may be had. Wheel Hoes are made for both straddle row and between row cultivation. Whatever the special need of the gardener, it is admirably met by one or another of the tools in this line. The Ames Company catalogue illustrates and describes each in detail. The Ames Company is a good one to look to for anything in the line of plow, harrows, cultivators, corn planters, hay tedders and a long line of other up-to-date implements and machinery.

Some fools and their money are parted only at death.

"How did I look when you proposed to me?"

"You looked as though you were taking your first ride in an automobile."

"You are in my pew, sir," said Mr. Upjohn, stiffly.

"Then I am sitting in the seat of the scornful!" replied the stranger, getting out of it with alacrity and taking a seat further back in the church.



EASY MONEY

is made by installing a Hawkeye Incubator. Little cost, little care, results sure, profits fully. We sell you at cost all fixtures like Tank, Lamp, Regulator, etc. No Experience. Hawkeye Incubator Co., Box 49, Newton, Iowa.



BUILD YOUR OWN INCUBATOR

You can do this easily with common tools. Save More Than Half Your Complete Set of Plans in ten days. We sell you at cost all fixtures like Tank, Lamp, Regulator, etc. No Experience. Hawkeye Incubator Co., Box 49, Newton, Iowa.

QUARTZ and MICA grinding mill for sale on railroad; list of 500 customers. Close to millions of tons of quartz, feldspar and mica section.

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A FARMER...

WANTED TO WORK ON SHARES. all team and tools furnished; a good thing for the right party (two men or a man with boys would suit better), good land and plenty of it. Address "J," care Postmaster, Green Bay, Va.

WANTED TO SELL OR EXCHANGE

180 acres improved land Powhatan Co., Virginia. Particulars from M. M. PRESCOTT, Elizabeth, Penn.

I HAVE A LARGE LIST OF

FRUIT, POULTRY AND TRUCK FARMS

Teas, Fifty and One Hundred Acres each, with good buildings, close to steam and trolley lines, easy access to the city. Also,

GRAIN AND STOCK FARMS

From 100 to 1,000 acres at low prices—all the way from \$5 to \$50 per acre. Write for catalogue.

J. R. HOCKADAY, Richmond, Va.

Box 257.



CASH FOR YOUR FARM OR ANY REAL ESTATE.

No matter where located. Send description and lowest cash price. I succeed by giving personal attention. Interesting and valuable particulars FREE. Write today. Bank reference.

WILLIAM T. BROWN, 114 Brown Law Bldg., Lancaster, Pa.

HOMES AND THE PLACE TO FIND THEM.

No place in the United States can a man do so well at farming, for the money invested, as in Virginia. Lands are cheap; climate good, and the best of markets close at hand. It is the State of all others, for a comfortable all the year round home. The James River Valley Colonization and Improvement Company offer superior advantages to land purchasers. For free 36 page land pamphlet, address

W. A. PARSONS, Vinita, Va.

C & O Main St. Depot, Richmond, Va.

Mention THE SOUTHERN PLANTER when corresponding with advertisers.

MOOREWOOD POULTRY FARM,
Wiseville, Chesterfield Co., Virginia.



Highest Grade B. P. ROCKS, W. WYANDOTTES, S. C. BLACK MINORCAS. Breeding and Exhibition Stock and Eggs for sale at all times. Prices reasonable. Write to-day for our LARGE ILLUSTRATED CATALOGUE and POULTRY GUIDE, inclosing two-cent stamp.

At the Great Richmond Shows of 1902 and 1903, our stock won THIRTY-FOUR PRIZES, TEN of THEM FIRSTS. No better utility stock can be had.

E. F. SOMMERS, - Somerset, Va.
Breeder of the finest line bred

Barred Plymouth Rocks

exclusively for 14 years. Write to me for what you want. Am sure can please you. My birds have been bred for laying qualities as well as shape and plumage. Cockerels, \$1 to \$2; eggs, \$1 per set of 15; 2 sets, \$1.50; M. B. Turkey eggs, \$3 per dozen.

EGGS from Fine Fowls.

Barred, Buff and White Plymouth Rocks; Silver, White, Buff and Partridge Wyandottes; Black Minorcas; Black Langshans; Light Brahmas; Buff and Partridge Cochins; White and Brown Leghorns.

♦♦♦ 15 For \$1.00 ♦♦♦♦

except the Wyandottes which are \$2.00 for 15. No stock except a few B. P. Rocks and Light Brahmas. C. J. WARINER, Mgr., Ruffin, N. C. OAKLAND POULTRY FARM.

EGGS!

Barred Plymouth Rocks

ONE DOLLAR FOR 15.

Prompt attention.

MRS. JNO. F. PAYNE,
University Station, Charlottesville, Va.
CLAIRMONT DAIRY FARM.

BARRED PLYMOUTH ROCKS

— EXCLUSIVELY —

Strong, healthy, vigorous, farm-raised stock, bred for laying eggs.

75 CENTS PER SITTING.

WM. B. LEWIS, Inc., Nottoway Co., Va.

THE PRINCE HAD A BUSINESS MIND.

The late Queen Victoria seems to have exercised a suzerainty over the pocket money of her grand-children. She held them to a strict accounting in the matter of expenditure, and if they did not make their allowances last over a specified period, she sternly called them to account. One week when the present Prince of Wales was at Eton, candy, tarts, and other school-boy delights, proved his financial undoing. He had spent a month's allowance in one week. With impecuniosity and indigestion came repentance. Accordingly he wrote a long mea culpa to his grandmother, confessing his fault, and asking for an advance on account of the next instalment of pocket money. In reply he received a long letter of admonition from the queen, refusing his request. The letter closed with a sentence in which the writer expressed the pain that it gave her in having to write to him.

A few days later, Her Majesty received another letter from the future heir to the British throne. It ran much like this:

"Dear Grandmother:—Yours received. Please don't bother any more about me. I'm all right now. I sold your letter for thirty shillings to one of our fellows here, who is collecting the letters of notable people."—Joel Coates, in Success.

RAISE WATERMELONS SUCCESSFULLY.

Doubtless many of the readers of the SOUTHERN PLANTER have had unsatisfactory experiences in the growing of watermelons. An old and very successful grower has kindly furnished some points of practical value on the cultivation of this luscious fruit. He advises that the best results are obtained with a rich, fresh, sandy soil, using well-rotted horse stable manure and wood ashes liberally. Plow deeply and pulverize soil finely. Do not cultivate while the dew is on, nor just after a rain. Cultivate rapidly and shallow, especially near the plants, until the melons begin to set. He has had the greatest success with and advises the planting of "Tendersweet" and "Emerald" seed—the first-named variety for family use, the latter for market. This seed may be obtained from Lee Seed Co., Burnt Corn, Ala., at 10c per package, and the company makes a bona fide offer of one-tenth their gross seed sales to the growers of the largest melon of either variety. Order seeds early and ask for full particulars regarding this prize offer.

A little bird sat on a telegraph wire
And said to his mates, "I declare,
If wireless telegraphy comes into
vogue,
We'll all have to sit on the air."

HOLLYBROOK FARM.

..EGGS FOR SITTING..

From Pure-bred Poultry.

In our poultry yards we have the following thoroughbred poultry, all first-class stock, originally started from the best stock in this country, and carefully cross-mated so as to give strong and vigorous stock and the best laying strains of the different breeds that it's possible to obtain:

BARRER P. ROCKS. \$1.00 per sitting.
LIGHT BRAHMAS. \$2.00 per sitting.
SILVER LACED WYANDOTTE. Price, \$1.50 per sitting.
WHITE WYANDOTTE. \$1.50 per sitting.

In addition to careful breeding, we pay special attention to the handling and packing of our Eggs, so as to ensure good fertility and a good hatch.

We have also for sale a few first-class young cockerels of BARRER PLYMOUTH ROCKS, SILVER LACED and WHITE WYANDOTTE. Price, \$1.50 and \$2 each, crated for shipment.

HENRY W. WOOD, Richmond, Va.
P. O. Box 330. Hollybrook Farm.



SILVER-LACED WYANDOTTES.

Eggs For Hatching.
\$1.00 per 15 from strong and healthy birds of leading strains. A few choice pullets at \$1 each. Pure-bred Poland China Hens at \$5.00 each.

Dr. H. H. LEE,
R. F. D. 2, Lexington, Va.

BUFF ORPINGTON EGGS.

POLAND-CHINA FIGS.

Book your orders early for eggs from our solid Buff Orpingtons. Orders can only be filled in turn. Sold out on cockerels long ago, and no stock till fall. Eggs, \$1 per 15. Orpingtons only. Poland China pigs, \$7 for pair; \$3.75 for one.

OCONEECHEE FARM,

Mecklenburg Co. JEFFRESS, VA.

Barred Plymouth Rocks For Sale.

Farm raised Poultry, fine, healthy; both sexes.

Eggs \$1.00 per setting of 15.

M. E. ANDREWS, Hurt, Va.



Eggs! Eggs! Eggs

FOR SITTING.

Barred Plymouth Rocks.

SILVER LACED AND WHITE WYANDOTTES, NICE BIRDS and FINE LAYERS.

All letters and ORDERS WILL RECEIVE OUR personal and PROMPT ATTENTION. GRANITE POULTRY YARDS, R. F. D. No. 3, Salisbury, N. C.

YOU CAN MAKE \$3 to \$10 A DAY
sitting chickens for us. Big profits.
Our 34-page FREE EYE BOOK
tells how. Write for it today.
JACKSONIAN OPTICAL COLLEGE, Dept. 2008,
Jackson, Mich.

LEGHORN POULTRY FARM



Has for sale a limited number of S. C. BROWN and S. C. WHITE LEGHORN Pullets and Roosters. Best layers known, Prize Winning Stock. Price, \$1.00, \$1.50 each. Eggs in season at \$1.00 for 16; \$2.50 for 60; \$5.00 per 100. Satisfaction guaranteed.

Address A. T. MATTHEWS, Box 36, Parksley, Va.

.. Eggs for Sitting. ..

When you want eggs for your incubator or hens, why not give me a trial and get as good as the best at cut-throat prices. BARRED P. ROCKS, WHITE WYANDOTTES, LIGHT BRAHMAS, WHITE and BUFF ORPINGTONS. A number of Cockerels for sale.

BRUSHY HILL POULTRY YARDS,
O. E. SHOOK, Prop. New Sterling, N. C.

Farm-Raised Poultry.

Two distinct flocks of Mammoth Bronze Turkeys from which we make matings for breeding purposes at reasonable prices. Eggs in season.

BARRED PLYMOUTH ROCKS,
WHITE PLYMOUTH ROCKS.
BIRDS AND EGGS.
PROGRESS FARM, Box 52, Normandy, Tenn

PIT GAMES

Black Devils and Red Cubans.

These cocks won 90 per cent. of battles fought in 1902 and 1903, and have never lost a battle when gameness and cutting qualities could win. Eggs \$2 per 15; stock for sale.

THOS. W. JARMAN, Yancey Mills, Va.

EGGS for HATCHING.

75c. Per Sitting of 15.

Light Brahmans, Black Minorcas, S. L. Wyandottes, Barred and W. Rocks, Brown Leghorns S. and R. C; White Leghorns S. C.

A few more Leghorn and Minorca Cockerels left. J. B. JOHNSON, Manassas, Va. CLOVER HILL FARM.

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WHY THEY ARE POOR.

Their ideas are larger than their purses. They think the world owes them a living.

They do not keep account of their expenditures.

They are easy dupes of schemers and promoters.

They reverse the maxim—"Duty before pleasure."

They have too many and too expensive amusements.

They do not think it worth while to save nickels and dimes.

They have risked a competence in trying to get rich quickly.

They allow friends to impose upon their good nature and generosity.

They try to do what others expect of them, not what they can afford.

The parents are economical, but the children have extravagant ideas.

They do not do to-day what they can possibly put off until to-morrow.

They do not think it worth while to put contracts or agreements in writing.

They prefer to incur debt rather than to do work which they consider beneath them.

They do not dream that little mortgages on their homes can ever turn them out of doors.

They have indorsed their friends' notes or guaranteed payment just for accommodation.

They risk all their eggs in one basket when they are not in a position to watch or control it.

They think it will be time enough to begin to save for a rainy day when the rainy day comes.

The head of the house is a good man, but he has not learned to do business in a businesslike way.

The only thing the daughters accomplish is to develop fondness for smart clothes and expensive jewelry.

They do not realize that one expensive habit may introduce them to a whole family of extravagant habits.

They do not know that giving a full power-of-attorney to an agent or lawyer puts their property at his mercy.

On a six-hundred-dollar income, they try to compete in appearance with a two-thousand-dollar-a-year neighbor.

They subscribe for everything that comes along—organs, lightning rods, subscription books, pictures, bric-a-brac,—anything they can pay for on the installment plan.

They have not been able to make much in the business they understand best, but have thought that they could make a fortune by investing in something they know nothing about.—Orison Sweet Marden, in Success.

The trouble with some people is that they allow themselves to be discouraged by criticism, and the trouble with others is that they do not.



S. C. White Leghorns

After improving this variety for 20 years, acknowledged the leading strain of high-bred, prize winners in north Virginia. Large, vigorous and handsome. Largest white eggs. The great winter money makers. Prices reasonable. Eggs, breeding pens and a lot of very handsome selected cockerels for sale.

Address

J. B. HUNTER,

Bethwell Farm, Vienna, Va.

Barred P. Rock

EGGS

From Sunnyside winter-laying Ringlet Strain \$1.50 for 15.

From good thoroughbred Barred P. Rocks 75c for 15.

Incubator Eggs Moderate Price.

SPLENDID COCKERELS (Ringlet), \$2.50.

It upon receipt of these birds you do not think they as good as you can get elsewhere for twice the money we charge, you can return them and we will refund the purchase price in full. No C. O. D. SHIPMENTS TO ANY ONE. SUNNYSIDE POULTRY FARM, Christiansburg, Va. Reference: Bank of Christiansburg, Va.

40 VARIETIES.

BEST POULTRY.

Fine large Poultry Guide, 6c. You cannot afford to be without it. Price List FREE. Write to-day.

JOHN E. HEATWOLE, Harrisburg, Va.

MY PURE-BRED

S. C. Brown Leghorns,

Are the best layers in the world—lay at all seasons. Place your orders early for eggs, 15 for \$1.

W. S. GUTHRIE, Childress, Va.

White Holland Turkeys.

I have a few very fine Toms left; first orders will get them. WHITE PLYMOUTH ROCK Cockerels—some nice ones. JOHN A. CLARK, Malvern Hill, Va.

EGGS FOR SALE.

WHITE HOLLAND Turkey Eggs \$2 per 10.
Rosecomb White Leghorns Eggs \$1.00 per 15;
\$2.00 per 40.

White Plymouth Rock Eggs \$1.50 per 15.

Mrs. LIZZIE DYER, Versailles, Tenn.

OAKSHADE F. B. Turkeys

and Huguonot W. Wyandottes,

—: FOR SALE :—

Raised on 400 acre blue grass farm—the best I have ever seen. Eggs from White, Buff and Partridge Wyandottes in season

Address Huguonot Poultry Yards,
... Dublin, Va.

...FEEDING OUR...

BABY CHICK FOOD

PRODUCES

HEALTHY CHICKS.

SAMPLE FOR THE ASKING.

INCUBATORS, 1-2-3

BROODERS AND

POULTRY SUPPLIES,

ALWAYS IN STOCK.

BIRDS, PET STOCK, GOLD FISH

EVERYTHING FOR THE FANCIER.

CATALOGUE FREE.

Having made a change in management we are better than ever, prepared to make prompt shipment.

FANCIERS' SUPPLY CO.,
517-519 West Broad St.,
Richmond, Va.

Kum C for Yosef

This may not be pure Turk, but you will find PURE STOCK AT THE CEDARS POULTRY AND STOCK FARM

Most fashionable strains JERSEY CATTLE, DUCO JERSEY AND POLAND CHINA Swine, B. P. R. Fowls, M. B. Turkeys, English Setters and Beagle Hounds.

Egg season is here; fanciers' stock, farmer's prices.

WM. G. OWENS, Middlethian, Va.

EGGS FOR SALE.

MAMMOTH BRONZE TURKEYS and BARRED PLYMOUTH ROCKS, are my specialties. My flocks of both are derived from "prize winners" of the best strains in the world.

Pens No. 1.—Turkey eggs per 15, \$4.00. Barred Plymouth Rock eggs per 15, \$2.00.

Pens No. 2.—Turkey eggs per 15, \$3.50. Barred Plymouth Rock eggs per 15, \$1.50.

If you wish to secure eggs, file your orders at once.

PIDMONT POULTRY PLACF,
Miss E. Caille Giles, Prop. - Wattle's Depot, Va.

EGGS

From my S. C. Black Minorcas and S. C. White Leghorns of the very best strains.

These breeds are raised on separate farms, and have free range. Eggs, \$1.00 per 15; \$2.00 per 35; \$5.00 per 100. I guarantee two-thirds hatch, or replace at half price.

J. MILTON GARNETT, Prop.,
Mitchell's, Va.

EGGS FOR HATCHING

From WHITE WYANDOTTES, SINGLE COMB and BROWN LEGHORNS and PEKIN DUCKS. We breed only layers, and get layers that commence early and keep at it. Vigorous stock, fertile eggs, and careful packing is our way. Eggs, 15 for \$4.00. DIXIE POULTRY COMPANY, R. R. No. 4, Richmond, Va.

Barred Plymouth Rocks

PRIZE WINNERS, THOROUGHBERED. The matchless F. F. V. strain founded on Bradley Bros., Thompson and others Plymouth Rocks, are recognized as the best general purpose fowl. Improve your stock by new blood. Fancier stock for show room. Large, vigorous birds for farm. Eggs, \$1.50 to \$3 for 15. Circular free. VIRGINIA HILL POULTRY FARM, Bristol, Va.-Tenn.

A DEFERRED RESTITUTION.

A pig belonging to a widow named Murphy mysteriously vanished one night, and Pat Hennessy, a ne'er-do-well was suspected of having had something to do with its disappearance. He denied all knowledge of the pig, however, and as there was no evidence against him he was allowed to go free; but at Mrs. Murphy's instigation the priest went to see him.

"Pat," said the priest, "if you've no fear of the law in this world, at least give a thought to the hereafter. When you're before the Judgment Seat, what are you going to say about that pig?"

"Shure, I dunno," replied Pat. "Will they be after askin' about th' pig in Purgatory, yer Riverince?"

"They will," said the priest.

"Will Mrs. Murphy be there yer Riverince?"

"Yes Pat."

"An' th' pig?"

"Yes, Pat."

"Shure, I'll wait an' give it to her thin, yer Riverince."—February Woman's Home Companion.

THE IRISHMAN HAD HIS DOUBTS.

As is well known, Rev. Robert Collyer, of New York city, was a blacksmith in Germantown, Pa., before he became a preacher. Once, when there was little work at hand, he asked a builder in his neighborhood for something to do. The latter replied that all he could give him would be a job carrying a hod.

"I'm your man," replied the blacksmith promptly.

Years afterwards, while an imposing edifice was being erected in Chicago for Dr. Collyer, he was standing among the beams, watching the progress of the work, when an Irishman came along with a hod of bricks. Dr. Collyer spoke to him and he paused.

"This is har'rd work, soir," said the Irishman.

"I know that well," answered Dr. Collyer; "in my day, I've carried the hod myself."

"The Irishman stared at me an instant," said Dr. Collyer, in relating the incident, "and went on his way mumbling something that sounded like, 'I wouldn't 'a' belaved th' parson was such a liar.'"—From Success.

A YOUNG BUSINESS MAN.


The Cohenstein family, loudly weeping, were gathered around the grave. As the coffin containing all the earthly remains of husband and father was being slowly lowered into its last resting-place, little Ike spoke up.

"Ach," he said, "papa owed me a nickel."

The weeping Mrs. Cohenstein dried her tears, and, gazing proudly at the mourners the while she patted Ike on the head, she said,—

"Ain't he the business man?"—February Lippincott's.

KEEPS EGGS FRESH
UNTIL THEY ARE USED.
ZINKET SYSTEM.



A FILLER, PRESERVER, TESTER AND CARRIER. INDESTRUCTIBLE IN FIRE OR WATER. TESTIMONIALS AND BOOKLET FREE. CHEAPER THAN STRAWBOARD.

National Egg Carrier Co.
SCRANTON, PA.

LIVE AGENTS WANTED.

Do You Want Layers?

If you do, get your eggs for hatching from our Utility Strain of

Barred Plymouth Rocks

\$1.00 for 15.

D. N. McLEAN, Maxton, N. C.

FOR SALE

At Coggin's Point Farm, 25 P. B. PLYMOUTH ROCK COCKERELS of Biltmore strain. Entire stock purchased last spring from Biltmore of prize winners. Price, \$2. Address, DAVID DUNLOP, Westover, Va.

BROWN LEGHORNS.

Eggs for hatching from splendid layers. \$1 per setting. Pens mated for best results. A few White P. Rock Cockerels at \$1 each.

R. W. HAW, Jr., Centralia, Va.

BUFF LEGHORNS

and Fancy Stock, progeny of New York winners for three generations. Hens last year averaged 220 eggs. Excellent utility birds. Eggs, \$2 per 15. Order now to avoid disappointment. A. R. VENABLE, JR., Box 147, Milwood Dairy Farm and Poultry Yards, Farmville, Va.

EGGS FOR HATCHING

From finest strains in America. White Wyandottes, Barred Plymouth Rocks, \$1.00 per 15. PENN LAIRD POULTRY CO., - Penn Laird, Va.

S. C. WHITE LEGHORNS.

Fine Cockerels, Wyckoff strain, \$1.50. Fine Cockerels from Biltmore prize birds, \$2.00. Write for prices on pens, choice matings. Eggs per sitting, \$1.00.

Mrs. J. W. WALTERS, Christiansburg, Va.

Pure-Bred Eggs

for Hatching. BARRED PLYMOUTH ROCKS, S. C. BROWN and S. C. WHITE LEGHORNS, BLACK LANGSHANS. \$1 for 15; \$5 for 100. 400 hens. PARK POULTRY YARDS, Harrisonburg, Va.

BARRED PLYMOUTH ROCKS

and BLACK MINORCA EGGS for sitting at 75c. for 15 eggs; \$1.25 for 30; and \$3.50 for 100. Apply to Mrs. N. T. GARTH, Ellisville, Va., Louisa county.

INCUBATOR ORPHANS FIND A GOOD STEPMOTHER IN
New Idea Brooders
Have just printed this say other. Hatched 100 per cent of healthy chicks. Complete features economy \$4.95. You make woodwork and save heavy freight. Free Catalogue tells all about them & New Idea Incubators. CHANNON, SNOW & COMPANY, BOX 108 QUINCY, ILLINOIS.



AURUS FOR SALE.

Black horse, foaled 1895, by Eolus (sire of Eole, St. Saviour, Eon, Morello, Russell Diablo, Eurus, Eolan, Elkwood, Knight of Ellerslie, etc.). Dam Sampy, by Imp. Rotherhill (son of Lord Clifden); 2d dam Satilla by Imp. Buckden (son of Lord Clifden); 3d dam Matilda, by Imp. Sovereign (son of Emilius); 4th dam Ruby Mare, by Imp. Ruby (son of Emilius); 5th dam Peytona, by Imp. Glencoe; and so on 18 crosses to a Royal Mare.

Aurus is a large, handsome horse 16 hands high, weighs 1,250 pounds, with fine bone and muscle, and a good disposition. Believed to be sound and a sure foot getter. Sold for no fault. Peytona was, perhaps the largest mare ever trained. She won the Peyton stakes, four mile-heats, worth thirty thousand dollars, four heats—16 miles. She afterwards beat Fashion four mile heats, who beat Boston the same distance. Apply to

R. J. HANCOCK & SON., Charlottesville, Va.

FOR SALE TWO COLTS

by "Whitby," 2:18½, get of "Kittie B.," 2:24½.

Bay filly, 15½ hands, 4 years old, high gaited, up headed, light mouthed, handsome. As 2 year old, 3 months from time of first biting, trotted quarter in 40 seconds; at second time of asking. An "A-1" race prospect.

Chestnut stallion colt, 2 years old, handsome than his sire, much stouter and another made; shows quality all over; broken last fall. "Nervy," clean gaited, level headed; will make a race horse, if "heredity" counts. The dam of these colts was the fastest race horse, in 18 years driving, I ever raced. Won two 7 heat races, two weeks in succession, and after breaking down trotted Pimlico track a trial in 2:18, half in 1:08. Price of colts, \$500, or would exchange for a fine team of 3 heavy farm mules, 4 to 7 years old. Both colts are "double gaited" and the stud will make a fine "saddle horse" sire, as he goes "all the gaits" in the pad-dock barefooted, and all the "Whitbys" have "velvet mouths." Address

T. WM. HEWITT, Weyanoke, Va.

"JAVANAIS"

IMPORTED FRENCH COACH STALLION.

Will be in the stud at Mr. A. Pollard's "Dunraven Farm," three miles below Richmond, on New Market Road.

Javanais is large, handsome, and of idea carriage conformation, and has proved himself a sire of carriage horses. Pedigree on application. Fee, \$20.

HORSES BOARDED winter or summer; horses fitted for market. Colts broken to harness or saddle. A. POLLARD, R. F. D. No. 5 Richmond, Va.

FOR SALE.—My Trotting-bred Stallion

GEORGE BURNS, foaled May 14, 1900. Mahogany bay, star in face, left hind foot white, of good style, easy to handle; will make good breeder. Write for his breeding.

J. TABE JANNY, Van Cliefville, W. Va.

EMILY'S CHARGE.

A Serial Tale by Mary Washington.

CHAPTER IX.

But it is now time we were returning to the orphans whom we have already left too long. Veil it as she might from the outside world, and even from her own brother and sister, Emily had become a changed creature from the time she had known Ellis Gordon, and since he had gone away, though she had busied herself as actively as ever about her employments, still the spring seemed to have gone out of her life which a little time before seemed to have blossomed with such brightness and fulness of beauty as she had never known before. The years of her early womanhood had been so wholly given up to Alice and Walter, and so filled with exertion and responsibility that she scarce had room in her heart or life for the romance of youth, so different had her lot been from that of most young girls. Love did not come to her till late, when her feelings, though as fresh as ever, had gained a depth and strength unknown in early girlhood. She had had, as all young girls do, vague, sweet dreams and fancies, about an ideal hero, a mingling of King Arthur, Sir Galahad, and all other noble and heroic characters, but never until now had the person presented himself who could raise the slumbering Princess.

By this time, Alice was eighteen, in the exquisite bloom of early womanhood, though Walter thought (and some one else agreed with him) that Emily's ripened loveliness was even more attractive. Alice, however, was more striking in appearance. She was very tall, and her eyes were large and of a brilliant brown, whilst her hair was a bright chestnut, and her complexion of creamy white, with a delicate rose tinge on her cheeks. In looking at her, Emily would often repeat to herself the lines from Tennyson's "May Queen,"

"There's Margaret and there's Mary,
there's Kate and Caroline,
But none so fair as little Alice in all
the land, they say."

Alice was not an accomplished young lady in the ordinary acceptation of the term, but she was a cultivated one, and in knowledge of history and store of general information, would have borne off the palm from the common run of school girls. She had also acquired a good knowledge of French and German from Emily. Above all, she had grown up to be a useful woman, helpful and kind to every one around her, and after all, this is the true end of education.

Every one in that community had become interested in the orphans and attached to them. The proprietor of the Springs and his wife who had taken a great fancy to them, would

FOR SALE

A HANDSOME DARK BAY HALF BRED HACK

NEY MARE, NINE YEARS OLD, IN

FOAL TO "CHERRYWOOD."

She is a mare of magnificent carriage type, standing 16 hands high, and sound, with good action. Has been a winner at Toronto and Ottawa, Canada, where she won the gold medal for best mare. Her progeny can be seen on the farm, which will prove her ability to produce high class stock. Apply to MR. A. POLLARD, New Market Road, three miles below Richmond (R. F. D. 5), Va.

FOR SALE.

FINE TROTTING STALLION.

WOOLFORD, 25539, by Judge Salisbury, son of Nutwood; dam Norma Sprague, by Geo. Sprague, etc. He is young, sound, handsome and impressive as a sire. Offered solely for want of use. Address W. V. THRIVES, Belton, Va.

JACKS AND JENNETTS.

FOR SALE. The finest lot of Spanish Jacks and Jennetts that I ever owned in my 20 years' experience. I defy competition as to quality and price. Twenty-five reasons why the farmer should raise mules. Call on or address,



BAKER'S JACK FARM,

Lawrence, Ind.

Free telephone connection from Indianapolis.

Knight & Jetton,

Breeders of and Dealers in

Jacks, Jennets, Stallions.

Durham and Hereford

YEARLINGS.

Send stamp for Catalogue.

Murfreesboro, Tenn.



Jacks, Jennets and Stallions

FOR SALE. FINE JACKS A SPECIALTY. When writing state exactly what you want or come and see our stock.

W. E. KNIGHT & CO.,
Route 5. Nashville, Tenn.



— SALE OR EXCHANGE. —

1 Maltese and 1 Spanish Jack, sound and sure, for good sheep or heavy stallion. Young stock preferred. W. S. MOTT, Dixondale, Va.

Angora = Goats.

In pairs to suit. Buck and Doe Kids at \$15 or \$20 per pair. Does in Kid, \$8 to \$10. Some extra REG. ANGUS Bull Calves, low down.

J. R. K. BELL, Pulaski City, Va.

ANGORA GOATS are handsome, hardy and profitable. For large circular address E. W. COLE & CO., Big Chilly, Ky.

GOATS!

Wanted a flock of good common breed goats, not exceeding in number twenty yearling females and two bucks. Answer M. D. L., Southern Planter, Richmond, Va.

WANTED

A second-hand DRILL, one that will plant, peas, oats, etc. C. F. HODGMAN, Waterway, Va.

WANTED

to buy (in lots of 25 and up to 200) nice young Leghorn Pullets—any color. P. J. HOLMES, Ivor Va.

EGGS! EGGS!!

Barred Plymouth Rocks, White Wyandotte and S. C. B. Leghorn, M. Bronze Turkeys, crossed with wild. Book your orders now. Miss CLARA L. SMITH, Croxton, Caroline county, Va.

BARRED PLYMOUTH ROCKS,
BUFF COCHINS, CORNISH INDIAN GAMES
and **PEKIN DUCKS.** Stock and eggs for sale. Satisfaction guaranteed. Prices low. Rev. J. W. HECKMAN, Cascade, Va.

COLLIE PUPS

By Imported Sires—sable and white and tri colors. Prices \$8.00 to \$15. Older ones correspondingly low. Book on Training, 50 cents; FREE!! you buy a Collie. MAPLEMOOT STOCK FARM, Albany, Vermont.

WANTED

One or two medium sized horses for company place in Virginia. Must be young, sound, of good appearance, broken to saddle, buggy and light farm work, moderate in price and gentle enough for a lady to handle. Mares preferred. Address with full particulars, Dr. THOMAS W. KAY, 345 Wyoming Ave., Scranton, Pa.

DAIRY HERDS

Put in order; men trained to take care of them. Large experience. Highest references. Agricultural College graduate, with years of practical experience in the dairy barn. Address, WALTER A. CONANT, Van Tassel Dairy Farm, Du Bois, Pa.

ORCHARD HILL PURE BRED**Poland Chinas!**

A few pigs, brood sows, and boars for sale; also some S. C. B. LEGHORN Cockerels. F. M. SMITH, JR., Charlottesville, Va.
R. F. D. No. 4.

Hawksley Stock Farm
offers some extra line**BERKSHIRES.**

A top lot of pigs not akin, ready for April delivery.

B. P. Rock and S. C. B. Leghorn eggs at \$1.00 per 15. J. T. OLIVER, Aliens Level, Va.

BERKSHIRE PIGS

Ready for January delivery, sired by my 18-months-old boar, CAPT. JACK 68623, who now weighs 680 lbs. in only fair breeding condition. The pigs are first-class in every respect and I will ship to responsible parties on approval. Am now booking orders for pigs March farrow by Lustre's Carlisle of Biltmore, 72057, recently purchased from Biltmore Farms.

WOODSIDE STOCK FARM,

Charlottesville, Va.

send them invitations whenever anything especially pleasant or entertaining was going on, and in this way, many social pleasures were placed within their reach, during the season. As Alice was just budding into womanhood, Emily thought it right to accept all suitable invitations for her, and accordingly they attended this summer a tournament and a ball given at the Springs. The former did not quite come up to the lists at Camelot or Ashby de la Zouche, still Alice enjoyed it vastly, and amongst the throng of fair and elegantly dressed women present, none was more beautiful than herself, nor more lovely than Emily. On this occasion, an old friend came up and accosted them, Allan Crawford, now at thirty, a far finer looking and more interesting man than he had been in his early youth. The next day he called at the cottage, and after that, he came daily.

It soon became evident that Allan had changed his allegiance, and that Alice, the little pet and plaything of former days had become "the rare and radiant maiden" of his choice. Before the summer was over, he had offered her his heart and hand, and during the autumn and winter, he pressed his suit with such zeal that before another springtime came round, Alice had capitulated and Allan was the blissful fiancé of this lovely young creature.

Emily said it seemed like a prophecy of this event that she had always had a sisterly feeling for Allan, and that there was no one in the world to whom she would be so willing to entrust "her dear child" as she called Alice. Still it was a hard ordeal for her to give up Alice, and she looked forward to the marriage with that mingling of pain and pleasure which seems to attach itself to all mortal affairs.

"It reminds me," said she, "of the Oriental proverb, 'Do not seek thy fate; thy fate is seeking thee.' When I brought Alice to these mountain fastnesses, it seemed as if I were cutting her off from society and from every worldly advantage, and yet her fate has sought her in this remote situation. She is marrying a man upright, honorable, intelligent, well educated, moreover in enjoyment of an ample competence. And the crowning blessing of her lot is that she loves him as well as he loves her. Without this, all the rest would count for nothing, for if a man would give all the substance of his house for love, it would be utterly condemned."

The ensuing few months were very busy ones at the cottage, Emily and Alice being diligently at work on the trousseau, a task dear to the feminine heart. Though they did not aim at an expensive one, they had skillful, tasteful fingers which could impart grace and beauty even to garments of simple materials.

Berkshire Hogs!

Sires in service, **Rockland Majestic of New Era**; his sire **Rockland Gentry**, champion of America in 1903; grand sire, **Baron Lee IV, Model Lee IX**, sire **Gov. Lee**, champion of America in 1889, Sows of **EQUALLY NOTED** Strains. A few nice pigs for sale. Write for prices

JNO. CALHOUN, Clío, S. C.

BERKSHIRES**ANNEFIELD HERD**

Contains the

Finest Blood Lines

In England and America.

Young Stock for Sale.

Inquiries cheerfully answered.

SPECIAL: A few extra 6-months old pigs, either sex.

EDW. G. BUTLER, Annefield Farms, Briggs, Clarke Co., Va.

ACCOMAC HERD**Large ENGLISH BERKSHIRES.**

A choice lot of young Boars and Glits now ready to ship; 60 nice pigs for spring shipment; the best English and American families. All stock eligible to registry. Write for prices.

ALFRED P. WHITE, JR.,
Parksley, Va.

HOLLYBROOK FARM.**Berkshire Pigs**

Are from first-class registered stock, Biltmore strain; have free range and plenty of running water, and are healthy, vigorous stock. Young pigs for sale. Write for prices.

HENRY W. WOOD,

Box 330.

RICHMOND, VA.

"Feeds and Feeding"

Prof. Henry's Great Book for
Farmers and Stockmen.

Delivered anywhere for \$2.00
With the SOUTHERN PLANTER, 2.25

BERKSHIRES

WE HAVE THE BEST.

MINIBORYA FARM,

Box 901. RICHMOND, VA.

THOROUGH-BRED....

Berkshire Boars,

Dorset Buck Lambs,

Jersey Bull Calves.

All stock in best of condition and guaranteed as represented.

F. T. ENGLISH, Centerville, Md.

Registered P. Chinas
C. Whites. Fine large
strains. All ages, mated
not in 8 week, pigs.
Bred sows. Service boars
and Poultry. Write for prices and free circular.
P. F. HAMILTON, Cochranville, Chester Co., Pa.



O. I. C. PIGS
FROM REG. STOCK.

FOR SALE. PRICES RIGHT.

F. S. MICHIE, Charlottesville, Va.

Choice Poland Chinas

Of all ages, bred out of old parents of popular breeding; also BARRED PLYMOUTH ROCK EGGS, 15 for \$1.00; 30 for \$1.50; 100 for \$5.00.

THOMAS R. SMITH,
Lincoln, Loudoun Co., Va.

WM. T. THRASHER, Springwood, Virginia,
BREEDER OF PURE BRED

Short Horn Cattle and
Poland-China Hogs.

FOR SALE: 2 yearling bulls, good ones, ready for service, sired by Verbena's Champion No. 12984; some younger bulls, sired by Royal Chief No. 148432; also some Fall Poland China sows of both sexes. Come or write.

VIRGINIA DIVISION.

FARMER'S MUTUAL BENEFIT ASSOCIATION.

Chartered by State of Virginia.

A fire Insurance Association for farmers of Eastern Virginia.

Organized January 9, 1904, \$370,000; policies secured by real and personal property, estimated value, \$1,000,000. For further information address CHAS. N. FRIEND, General Agent, Chester, Va.

Alice had one advantage over wealthy girls who merely order their trousseaus, the making of which is only a matter of dollars and cents between themselves and their dress-makers. Every article that Alice did not make herself was made by Emily, and thus served as a token and reminder of her love. Yet though there is a vast amount of shoddiness displayed in trousseaus, nowadays, still the principle is right, and is dictated by a sense of "the eternal fitness of things." It is appropriate that we should clothe ourselves with new and diverse garments as we enter on new eras of life. It is suitable that a bride should have fresh and beautiful clothing. Every lovely tint and fabric and ornament seem fitting symbols of the new era on which she is entering which, if she truly loves and is worthily beloved, will open to her a world of bloom, beauty and happiness far beyond any other tie or phase of life can offer.

During the time of Alice's betrothal, Emily strove by close occupation, and by sympathy with her sister's happiness to forget the void and disquiet in her own heart, but she could not. Love had stolen in softly and imperceptibly, but he had enshrined himself so deeply in her heart that it seemed impossible for one of her earnest and steadfast nature to drive him out. Deeply as she loved her brother and sister, and warmly as they reciprocated her affection, she had become conscious of a sense of loneliness and isolation which must come, at times, to every woman, until she has found that "dearer life in life" by which alone her own can be rounded and completed.

Late in the spring the marriage was quietly celebrated, their good friend, the Episcopal clergyman performing the ceremony. With heartfelt earnestness, he went through the beautiful prayer (touching the true and heavenly keynote of marriage) that the young couple might "so live together in this world that in the world to come they might have everlasting life."

When the spring flowers bloomed that year, in the old garden at "Soldier's Joy," a fairer flower bent over them, inhaling their old familiar fragrance with delight, Alice, the lovely young bride whom Allan had carried back to her old home.

An obedient husband up in Franklin county, Me., was directing to doing certain work about the house, and he quoted Scripture to his wife, showing that the household duties should properly be assigned to the woman. The good wife replied by reading to her astonished Hegg II. Kings xxi. 13. "I will wipe Jerusalem as a man wipeth a dish, wiping it and turning it upside down." That husband has wiped the dishes ever since.—Zion's Herald.

Cattle, Horses and Sheep

From Blue-Grass, Va.

Bought on Commission

We can furnish grade Shorthorn, Hereford and Angus steers, from 1 to 3 years old.

High grade, and pure-bred, heifers and young bulls at low prices.

Grade ewes, and pure-bred, rams, of Shropshire, Hampshire, Southdown and Suffolk breeds.

SADDLE, HEAVY-DRAFT and DRIVING HORSES. Write us your wants.

SHANNON BROS.,

POPLAR HILL, VA., Giles Co.

Telephone Office and Station,
Dublin, Va., N. & W. Railroad.

GREENFIELD HERD OF

Aberdeen Angus Cattle.

Baron Ida, 20184 (Champion yearling, 15 firsts, 17 times in 1st prize herd, 4 firsts on produce of sire and 3 times at head of grand sweepstakes herd) at head of herd.

The females in this herd are prize winners or the immediate descendants of prize winners sired by such noted bulls as Champion Lord Hillhurst, Beau Forbes II., by Beau Hill (champion of the West for two years); Cham. Baron Ida, Ludolph 4th, Rustler 2d.

Choice calves from the above cows sired by Baron Ida, Encouragement 46382, and Erard 55380.

WARREN RICE, Winchester, Va.

H. F. COLEMAN & SONS,
MULBERRY GAP, TENN.,

—BREEDERS OF—

ABERDEEN-ANGUS CATTLE.

JANNET'S KING, 482-1, greatest son of Valiant Knight II., 29331, first prize bull at all three of the International shows, heads the herd. Visitors and correspondence invited. Young things for sale.

MONTEBELLO HERD

ABERDEEN-ANGUS CATTLE

FOR SALE—2 Registered Bulls, calved Dec. 17th, 1902, and Aug. 28th, 1903.

Berkshire Pigs,

(Biltmore Strain.)

farrowed May 1903. For terms, apply to

L. H. GRAY, Orange, Va.

Aberdeen Angus Cattle!

FAME OF WOODLAWN.

1st in class of 22 at the International Show, 14 Ancestral Champlons. Write your wants and for prices of heads for heads.

JOHN T. and G. B. MANLOVE, Milton Indiana.



—ROSEDALE HERD—

Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as low as good breeding will permit. Inspection of herd and correspondence invited.

ROSEDALE STOCK FARM, Jeffersonton, Va.

REGISTERED SHORTHORNS.

Our old, established herd of about forty good milking cows is headed by imported SIR WILFRED LAURIER, 144766 (a son of the great English champion Marengo); CEDRIC, 126083 (a grandson of William of Orange, of Marr Farm), and FRANTIS LAD, 210443 (a winner of second prize in senior bull calves at 1903 International Young stock for sale,

P. S. LEWIS & SON,
Point Pleasant, W. Va.

ELLERSLIE FARM
Thoroughbred Horses
AND SHORTHORN CATTLE,
Pure Southdown Sheep
and Berkshire Pigs.
For Sale. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.



COOK'S CREEK HERD
Scotch-Topped
Shorthorns

Herd Headed by Governor Tyler, 1585 48. Young Bulls for sale. Inspection and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

MEADOW BROOK SHORTHORNS.

I have several very fine Shorthorn Red Bull Calves 6 to 10 months old, and several very nice yearling Shorthorn Heifers for sale at farmer's prices. C. A. SAUNDERS, Meadow Brook Stock Farm, Culpeper, Va.

FOR SALE OR TRADE

- 1 Registered Shorthorn Bull,
- 5 years old, to prevent inbreeding.
- 1 Registered Shorthorn Bull,
- 6 months old.
- 50 bu. French White Artichokes,
- at 75 cents per bus.
- Standard bred Poland-China Pigs, 3 to
- 4 months old.

J. H. BOELTE & SONS, - News Ferry, Va
West.

I OFFER

- 2 Reg. Ayrshire Bulls,
- One 10 mos. old.....PRICE, \$40.00.
- One coming 3 yrs. old.....PRICE, \$65.00.
- Low considering Quality.

Registered and high grade HAMPSHIRE DOWN SHEEP of best breeding. Rams, Ewes and Lambs for sale. Stock and Prices will suit.

J. D. THOMAS, Round Hill Va.
Meadow Brook Stock Farm.

GOV'T AUCTION SALE
CATALOGUE GUNS
Pistols, Military Goods (Illustrated)
15c, mailed 6c stamps. F. Bannerman, 579 Broadway, N. Y.

THE No. 6 IRON AGE COMBINED
DOUBLE AND SINGLE WHEEL
HOE, HILL AND DRILL SEEDER.



The cut shows the tool ready for sowing garden seeds in continuous rows or in hills at four, six, eight, twelve or twenty-four inches apart. The change from sowing in continuous rows to that of dropping in hills can be instantly made, or the reverse. The seed sowing device is very simple and can be removed quickly, and the tool changed into a complete single or double wheel hoe by making use of the small working tools, extra wheel, etc., shown in the cut about the machine.

In designing the seed sowing device simplicity of construction, convenience of adjustment and perfection of work were kept constantly in mind. The agitator is simply a revolving brush of selected bristles, which absolutely will not injure the seed. The seed hopper holds two quarts. The light weight of this tool, combined with the remarkable strength of same, cannot help but appeal to you as having excellent advantages, especially since this is a tool that is to be pushed solely by hand.

This implement, as well as a complete line of garden tools, horse hoes and cultivators, riding cultivators, two-horse walking cultivators, special trucking tools, potato planters, etc., are made by the Bateman Mfg. Co., Box 167, Grenlock, N. J., who guarantee their implements to be as represented, and will be pleased to send their catalogue free to all who make inquiry for same.

A JOKE FROM ENGLAND.

At a recent Chamber of Commerce dinner the following story was told: "At the time of King Edward's recovery from appendicitis, thanksgiving services were held all over the British dominions. The services were concluded at a certain place by the singing of a well-known hymn, which happened to be in the back of the book. "Let us close the services," the recitor said, "by singing the hymn, 'Peace, Perfect Peace'—in the appendix." "

TWO TOO MANY.

"Triplets," said we Willie Winkletop with a very knowing air, "always come to poor families. It's when God sends them a whole line of samples to pick from, and they hasn't enough money to pay the expressman to take two of 'em back."—February Lippincott's.

Angus Cattle For Sale Low.



One 5 year old bay mare with black points, 16 hands, weight 1,150. Fine family mare and a nice driver. Lot of 7-8 grade Angus bull calves. Lot of 15 16 grade Angus bull calves. These grade calves look like thoroughbred Angus, and will please the most fastidious. 1 five year old Shrothorn cow with bull calf at foot, by our Reg. Angus Bull, a fine family milk cow; quality's perfect. A splendid family milk cow 4 years old. Will drop a calf in April next, by our Angus bull. A splendid location for a saw mill. Timber to last 3 years or longer one-half mile from the railroad.

W. M. WATKINS & SONS,
Saxe, Charlotte Co., Va.

V. P. I. Farm Bulletin

We are now offering some choice young Bulls of the following breeds:

Shorthorn, Hereford, Aberdeen-Angus.

Write at once for pedigrees and prices.

D. O. NOURSE, Prof. of Agr.
Blacksburg, Va.

Swift Creek Stock and Dairy Farm



Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS AND HEIFERS.

None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 4 to 6 months old, \$25; Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

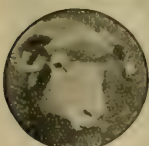
T. P. BRASWELL, Prop., Battleboro, N. C.

REGISTERED GUERNSEY CATTLE

Of all ages, for sale, including a 2-year old Bull, from a tested dam.

G. M. WALLACE,
FALMOUTH, VA.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

**EDGEWOOD STOCK FARM**

DORSETS

Fall lambs now ready. Now is time to order Dorset rams. Write for circulars and photos. Come to see our

Dorsets. J. D. & H. ARBUCKLE, Greenbrier Co., Maxwelton, W. Va.

...WOODLAND FARM.

DORSET SHEEP,

Beardless Spring Barley,

Choice Alfalfa Seed.

J. E. WING & BROS., Mechanicsburg, O.

....BARGAINS....

DORSETS AND HEREFORDS

H. ARMSTRONG, LANTZ MILLS, VA.

Poland-Chinas and Chester Whites

AT FARMER'S PRICES.

S. M. WISECARVER, - - Rustburg, Va.

Ayrshires, Berkshires and Oxford-Downs.

Ayrshire Calves of both sexes, Berkshires Pigs and Boar and 2 Oxford-Down Rams for sale. MELROSE CATTLE FARM, Enos H. Hess, Manager, Casanova, Va.

FOR SALE.

3 Aberdeen-Angus Heifers,
Bred from Hero of Bunker Hill, 31462.
All three good individuals.

J. TABB JANNEY, Van Clievesville, W. Va.

**ANGUS & HOLSTEIN CATTLE.**

Registered and grades, of all ages and sexes, and of champion blood or the beef and milk strains and of moderate prices. Also Nursery stock of all descriptions

MYER & SON, Bridgeville, Delaware.

LICE

Gibson Liquid Lice Killer kills all lice and mites on Fowls, Cattle, Hogs and Horses. Easily applied and guaranteed to kill the lice or money refunded. Gallon can \$1.00. Liberal terms to dealers and agents. Write to-day for prices and circulars.

GIBSON & LAMB, West Alexander, Pa.

CORN PLANTING

time will soon be here. To get the biggest crop you want a planter that will do the work right. "The Hamilton" Corn Planter is the best machine on earth for insuring increased corn crop. Write for catalogue and price.

THE H. P. DEUSCHER CO. INC.
Hamilton, Ohio, Manufacturers.

Mention the SOUTHERN PLANTER in writing.

Your Buggy Catalog is Ready

The Ohio Carriage Mfg. Co., 10 Sixth St., Cincinnati, Ohio, H. C. Phelps, President, desires to announce to our readers that the new and attractive 1904 catalogue of Split Hickory Vehicles and Harness is now ready for free distribution, and will be promptly sent, prepaid, to all who request it.

As is well known to most of our readers, many of their regular customers of this great buggy concern, the Ohio Carriage Mfg. Co. is the sole manufacturer of the Split Hickory line of vehicles, all of which they sell direct to the user at factory price, affording a great saving over other methods.

**CINCINNATI-OHIO**

The beauty of the cover of the 1904 catalogue, with its seven colors and artistic design, is but feebly portrayed above in the small reduced illustration. The catalogue is a work of art and its contents are complete and authoritative. It lays special stress, very properly, upon the 1904 Split Hickory Special Top Buggy, priced at \$50, the wonder and pride of the buggy user, the envy of buggy makers universally.

This Split Hickory Special has one hundred points of merit. These points comprise every late feature known in the manufacture of a strictly high-grade buggy.

We ask our readers in sending for this 1904 catalogue to use the following coupon and to fill out the blanks carefully, and mail it direct to The Ohio Carriage Mfg. Co., 10 Sixth St., Cincinnati, O.

Name.....

address.....

"THE SURE HATCH IN ALASKA."

Minto, Yukon, Jan. 7, 1904.—Seattle Produce Co., Eugene, Oregon, Gentlemen,—Enclosed please find eighteen dollars (\$18) for another 150 egg size incubator. Please send it as soon as possible as I want to set it in the fore part of March. The one you sent me last fall is all right and I want to set two in March, or sooner if the hens begin to lay. I will want some more later. I enclose 20 cents for exchange of Canadian greenbacks. On my first hatch I got 85 per cent, and have not got less than 95 per cent. since that time. Ship the machine to Mrs. John Fussell, Minto, Yukon, care of Mr. Wheeler, Royal Mail Service, White Horse.

EGGS

From barred buff and white Plymouth Rocks; buff Orpingtons and Mammoth bronze turkeys, [scoring 91 to 96 points, at farmers' prices.

—BOOKING ORDERS FOR—

POLAND-CHINA PIGS.

I have a herd from the greatest breeders in the world,—the best that money can buy. I treat buyers as I wish to be treated. Write for prices and free circular. 15 years a breeder.

J. B. BEAMER, Pickaway, W. Va.

EGGS for sale.

From Prize Winning BUFF LEGHORNS and BARRED PLYMOUTH ROCKS. Also choice Barred Rock Cockerels (Miles Strain).

MISS JULIA P. JONES,
Bethania, N. C.

WALSH'S

Barred Plymouth Rocks

High class combination utility and exhibition stock. Best blood. Bred from prolific layers of large brown eggs. Eggs, \$1.50 per 15.

L. W. WALSH,
Lynchburg, Va.

Box 194.

Silver Laced Wyandottes.

No finer general purpose fowl in America. Bred for beauty and utility. Eggs from choice and pure bred stock, \$1.25 per 15; \$2.00 per 30. Twenty-three years a breeder and shipper.

S. P. YOUNGER, Denbigh, Va.

BEST STRAIN

'BARRED PLYMOUTH ROCKS.

The ideal farmer's fowl. Eggs, 50c per setting of 15 F. O. B. here. Mrs. WM. P. BURNS, R. F. D. 1, Bedford City, Va.

—FOR PURE-BRED—

WHITE LEGHORN

eggs at 75c per sitting, address,
Mrs. W. P. ALLEN, Walnut Hill, Va.

FOR SALE AT A BARGAIN

2 pure-bred Holstein Friesian Bull calves two months old.
Address, H. W. MANSON, Crewe, Va.

...5 PURE-BRED...

BERKSHIRE BOARS

for sale, 2 months old, \$5.00 each.
H. SWINEFORD, Richmond, Va.

SPECIAL NOTICE.

Our new invention, used on every farm every day, sells on sight, and is guaranteed for ten years. A great opportunity to make money for parties able to invest \$300 to \$1,500 for territory for the sale of this invention. Railroad Fare will be paid one way to responsible men who come prepared to do business, whether they decide or not. Write for particulars to H. ADOLPH MULLER, Eastern Agt., box 552, Richmond, Va.

WASHINGTON'S REVERENCE.

AN ANECDOTE OF THE FATHER OF HIS COUNTRY AND OF HIS MOTHER.

Much of George Washington's firm strength of character was due to his splendid ancestry, as the following little anecdote will testify:

While reconnoitering in Westmoreland county, Va., one of General Washington's officers chanced upon a fine team of horses driven before a plow by a burly slave. Finer animals he had never seen. When his eyes had feasted on their beauty, he cried to the driver:

"Hello, good fellow! I must have those horses. They are just such animals as I have been looking for."

The black man grinned, rolled up the whites of his eyes, put the lash to the horses' flanks, and turned up another furrow in the rich soil. The officer waited until he had finished the row; then, throwing back his cavalier cloak, the ensign of rank dazzled the slave's eyes.

"Better see missis! Better see missis!" he cried, waving his hand to the south, where, above the cedar growth, rose the towers of a fine old Virginia mansion. The officer turned up the carriage road, and soon was rapping the great brass knocker of the front door. Quickly the door swung on its ponderous hinges, and a grave, majestic-looking woman confronted the visitor with an air of inquiry.

"Madame," said the officer, doffing his cap, and overcome by her dignity, "I have come to claim your horses in the name of the Government."

"My horses?" said she, bending upon him a pair of eyes born to command. "Sir, you cannot have them. My crops are out and I need my horses in the field."

"I am sorry," said the officer, "but I must have them, madame. Such are the orders of my chief."

"Your chief? Who is your chief, pray?" she demanded, with restrained warmth.

"The commander of the American army—General George Washington," replied the other, squaring his shoulders and swelling with pride. A smile of triumph softened the sternness of the woman's handsome features. "Tell George Washington," said she, "that his mother says he cannot have her horses."

With a humble apology, the officer turned away, convinced that he had found the source of his chief's decision and self-command.

And did Washington order his officer to return and make his mother give up her horses? No; he listened to the report in silence, then, with one of his rare smiles, he bowed his head.—February St. Nicholas.

Mention the SOUTHERN PLANTER in writing.



No Trace of Disease

any one of the three years, 1901, 1902 or 1903 at or following the International Live Stock Exposition at Chicago. Is it remarkable? If you saw the shows you know the countless thousands in value assembled. There was anxiety among breeders. They had to be assured against the spread of contagious diseases. The management met the demand each year by disinfecting with famous

ZENOLEUM

Zenoleum exclusively. That's high, reliable testimony. Do you use Zenoleum? It destroys disease germs, avoids contagion, cures scab, cholera and skin diseases, kills lice, removes stomach and intestinal worms, establishes and maintains for live stock ideal sanitary conditions.

"The Great Coal Tar Carbolic Disinfectant Dip."

Sample gallon of Zenoleum \$1.50, express prepaid. 5 gallons \$6.25, freight prepaid. If you breed live stock you should learn what Zenoleum will do for you. Ask for free Zenoleum handbooks, "Veterinary Adviser" and "Figs' and Troubles." A postal will bring them. Zenner Disinfectant Co., 93 Bates St., Detroit, Mich.

BIG BARGAINS

IN

ABERDEEN-ANGUS BULL CALVES.

For prompt sale we offer as follows:

1 YEARLING BULL FOR	\$75.00
2 8 MOS. CALVES, EACH	\$50.00
2 6 "	\$40.00

These calves are sired by our Bull Marvill, No. 40991, (direct descendant of the world famous Gay Blackbird) out of as pure blooded cows as are to be found anywhere. These calves are in good condition, and fine specimens as to form, color, etc. Remember the bull is half the herd—therefore get the best. Come and see them or write.

WILSON BROS. & CO., - News Ferry, Va.

FOR SALE

BERKSHIRE BOARS

6 months old, right in every way.

JERSEY BULL CALVES,

from superior cows.

Forest Home Farm,

Purcellville,

Virginia.

THE - OAKS - STOCK - FARM.

A. W. HARMAN, Jr., Prop.,

We breed and ship the best strains of

Large ENGLISH BERKSHIRES

Send us your order and get the best.

A Large Registered English Berkshire Boar, 1½ year old, extra fine specimen FOR SALE. None better bred in this country. 6 coming 2 year old JERSEY HEIFERS for sale; also 2 fine Jersey Cows; 1 yearling heifer, a perfect beauty. Write for price.

ALEX. HARMAN, Mgr., Lexington, Va.



When corresponding with our advertisers always mention the Southern Planter.

BILTMORE FARMS, - Biltmore, N. C.

Headquarters for GOLDENLAD JERSEYS,

Also Get of TREVARTH and GEN. MARIGOLD. ❀ ❀ ❀

GOLDEN LAD'S SUCCESSOR. First and sweepstakes over all at the Pan-American Exposition, the champion JERSEY BULL OF AMERICA, and out of Golden Ora, our great prize-winning cow, both born and developed on these Farms, is among our service bulls.

Biltmore Jerseys are a combination of large and persistent milking qualities with an individuality that wins in the show ring.

SPECIALTY. Write for descriptive circular of the best lot of young bull calves ever offered, both for breeding and individuality. They are by noted sires and out of large and tested selected dams. Many of these calves are fit to show and win in any company. ❀ ❀

BILTMORE POULTRY YARDS. ❀ ❀

SPECIALTY. Write for descriptive circular of eggs from our prize-winning pens. Over 50 yards to select from, made up of the winners at the leading shows for the last two seasons. If you want winners you must breed from winners.

Headquarters for the best IMPORTED ENGLISH BERKSHIRES.

APPLY TO BILTMORE FARMS, BILTMORE, N. C

EGGS FOR HATCHING

The Imperial Fruit and Poultry Farm

❀ ❀ Is now booking orders for eggs for hatching from strictly pure, high-class poultry, at \$1.00 for 15 eggs, except duck eggs, which are \$1.00 for 13. ❀ ❀

BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS,
SINGLE COMB WHITE AND S. C. BROWN LEGHORNS,
SILVER LACED AND WHITE WYANDOTTE,
MAMMOTH PEKIN DUCKS.

Satisfaction Guaranteed. Write your name and address plainly.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

MR. YERKES' FIRST DEAL IN SOAP

Charles T. Yerkes, who is now busy supplying London with an adequate rapid-transit system, began his business career with a successful speculation that did not involve the outlay of a dollar. It was a Saturday afternoon, and he was strolling along a wharf in Philadelphia, when he came to a store where an auction sale was in progress.

"How much am I offered for this box of soap?" asked the auctioneer.

The thirteen-year-old boy looked at the brand and saw that it was the same soap as that used in his home. He knew what his mother paid for it at retail, and so he made a bid. The auctioneer smiled at him, cried the bid once, and said: "Sold to—what's your name, bub?"

"Charley Yerkes."

"Sold to Charley Yerkes for—."

Then another box was put up and bid in by the boy, and this was continued until fifty boxes had been struck off to him. He had a deposit of five dollars in a savings bank, which had been there for some months. He showed the auctioneer his certificate of deposit, and said he would soon return and pay for the soap.

He went to the grocer with whom his family traded, and asked him if he wanted to buy some soap. The grocer asked how much he had and what it was worth. The lad replied that he had fifty boxes, and that he would sell the lot for a certain sum, naming an amount double that which the soap had cost him at the auction house. The deal was closed, and then the storekeeper asked the lad how he had come by it. When young Yerkes told him, the man opened his eyes and said: "I had intended to go to that auction, but forgot it." The boy did not draw his five dollars from the bank, and thereafter it was his great pride to add to it. "It is surprising," said he, not long ago, in telling the story of his first money-making effort, "how it grew from year to year. When I was twenty-one years of age the money of which this was the foundation amounted to several thousand dollars."—Success.

WHAT, INDEED?

The physicians were holding a consultation beside the cot of the man supposed to have appendicitis concealed about his person.

"I believe," said one of the surgeons, "that we should wait and let him get stronger before cutting into him."

Before the other prospective operators could reply, the patient turned his head and remarked, feebly:

"What do you take me for—a cheese?"

"Some men," said Uncle Eben, "will put in weeks prayin' for rain, an' den kick cos' dey happens to git deir feet wet."

Local agencies and complete repair stocks everywhere

McCORMICK HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

LARGE YORKSHIRE HOGS

THE COMING BACON BREED—
THE MOST PROLIFIC BREED—

48 pigs from four litters, ready for December delivery—our Fall prices always the lowest.

INDIAN GAMES, the fashionable table fowl.

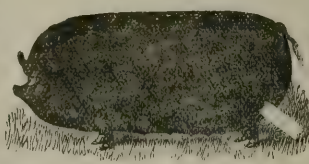
WHITE LEGHORNS, the greatest layers.

WHITE WYANDOTTES, the best all round fowl. Also

JERSEY BULLS and HEIFERS from cows with recorded butter tests of 18 to 24 lbs. in 7 days.

BOWMONT FARMS, Salem, Va.

HILL TOP STOCK FARM.



Berkshire Hogs and Southdown Sheep

A SPECIALTY

S. Brown Allen, who succeeds H. A. S. Hamilton & Co. in the ownership and management of this celebrated Stock Farm, with increased facilities, will make a specialty of breeding Berkshire Hogs and Southdown Sheep, without regard to cost, from the purest and most royal strains of imported blood.

My BERKSHIRE PIGS

For this Spring delivery will weigh 100 pounds at 12 weeks of age, and for INDIVIDUAL MERIT cannot be excelled in the United States. They will make show hogs against any and all competitors and are being engaged every day. The last of my Fall and winter pigs have been sold, and orders will only be taken for Spring delivery. S. BROWN ALLEN, Staunton, Virginia, (Successor to H. A. S. HAMILTON & Co.)

ALL THE GARDEN TOOLS

needed by the home or market gardener. A special tool for every purpose.



Matthews' New Universal

Hand Seeders and Cultivators.

For every condition of truck growing from seeding to last cultivation. Most valuable combination tools. Widely adjustable, best made. Get free late catalog.

AMES PLOW COMPANY, 56 MARKET STREET, BOSTON, MASS.

For Sale by CRIFFITH & TURNER CO., Baltimore, Md.

Star Pattern Billings Planter and Fertilizer

for corn, beans, peas, beets, etc. One operation. Seed and fertilizer dropped in hills any distance apart. Trip and marker attachments for planting in rows both ways if wanted.



Hand Wheel Plows

(Matthews' New Universal)

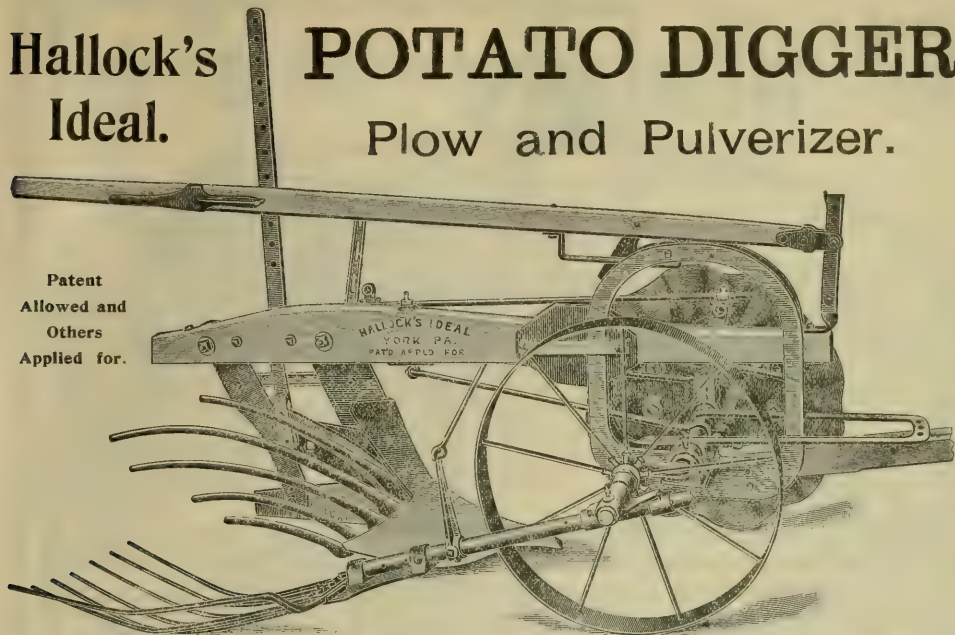
Hoe, cultivator and rake attachments. A combination indispensable on farm. Ask for our free late catalogue of all garden tools. The up-to-date gardener's practical line.

**Hallock's
Ideal.**

POTATO DIGGER

Plow and Pulverizer.

Patent
Allowed and
Others
Applied for.



Can We Send You this Splendid Machine on Trial?

We have spent 20 years in perfecting this Potato Digger and are satisfied that it is the only successful one on the market. We are willing for YOU to say whether it is what we claim for it. If you don't like it, the *Digger is ours*. The Southern Planter has examined its merits, and recommends its readers to send for it on trial. Will you do it? Let us mail you particulars. Write to-day. NOTICE THE AGITATOR on the wheel; remove it, and you will have the *best plow in the world*.

We want a good, active, responsible Energetic Agent in every section of the country to handle the "IDEAL." We will sell the first machine in each locality at a greatly reduced price. We protect our agents. The wise man will surely act quickly for he must see that territory on this machine will be eagerly sought for.

— SPECIAL. —

The Keystone Farm Machine Co., of York, Pa., have the exclusive right to manufacture our Hallock Flat Tooth Weeder for the Eastern and Southern territory. The Janesville Machine Co., of Janesville, Wis., have the same rights for the Western territory. Our friends will therefore have no difficulty in securing this well known and valuable machine. The patents have been fully sustained by five different Circuit Courts.

Write for Circulars and Testimonials from Those Who Have Used the Digger.

D. Y. HALLOCK & SONS, Box 813, YORK, PA.

If you will give us your name and address we will send you an elegant 32-page catalogue—

A Treatise on Potato and Corn Culture.

IF YOU ARE WELL-BRED

You will be kind.
 You will not use slang.
 You will try to make others happy.
 You will not be shy or self-conscious.
 You will never indulge in ill-natured gossip.

You will never forget the respect due to age.

You will not swagger or boast of your achievements.

You will think of others before you think of yourself.

You will be scrupulous in your regard for the rights of others.

You will not measure your civility by people's bank accounts.

You will not forget engagements, promises, or obligations of any kind.

In conversation you will not be argumentative or contradictory.

You will never make fun of the peculiarities or idiosyncrasies of others.

You will not bore people by constantly talking of yourself and your affairs.

You will never under any circumstances cause another pain, if you can help it.

You will not think that "good intentions" compensate for rude or gruff manners.

You will be as agreeable to your social inferiors as to your equals and superiors.

You will not sulk or feel neglected if others receive more attention than you do.

You will not have two sets of manners—one for "company" and one for home use.

You will never remind a cripple of his deformity, or probe the sore spots of a sensitive soul.

You will not gulp down your soup so audibly that you can be heard across the room, nor sop up the sauce in your plate with bits of bread.

You will let a refined manner and superior intelligence show that you have traveled, instead of constantly talking of the different countries you have visited.

You will not remark, while a guest, that you do not like the food which has been served to you.

You will not attract attention by either your loud talk or laughter, or show your egotism by trying to absorb conversation.—February Success.

CAR LOAD OF PURE BRED HEREFORDS AT FOREST DEPOT. VA.

A car load of pure bred Hereford Heifers from Kentucky have arrived at Forest Depot, consigned to the Elgton Stock Farm. They are said to be the pick of Kentucky's pure bred cattle, and will, no doubt, be heard from in the show ring next fall.

This addition to their already large herd of pure bred Herefords will, no doubt, make this one of the best and largest herds of white-faces in this section of the country.



DAN PATCH 1:56 1/4

THE FASTEST HARNESS HORSE in the WORLD

HE HOLDS THE FOLLOWING WORLD RECORDS:

Mile Record,	1:56 1/4	Half-Mile Record,	0:56
Mile Record on Wagon,	1:57 1/4	Mile Record on Half-Mile Track,	2:03 1/4
Mile Record on Mack Wheel Sulky,	2:04 1/4	Two-Mile Record,	4:17

DAN PATCH HOLDS MORE WORLD RECORDS THAN ANY HORSE THAT HAS EVER LIVED.

IN TWO YEARS DAN PATCH HAS PACED TEN MILES FROM 2:00 FLAT TO 1:56 1/4.

IN TWO YEARS DAN PATCH HAS PACED TWENTY-TWO MILES IN 2:01 1/4 TO 1:56 1/4.

DAN PATCH PACED ELEVEN MILES IN 1903 THAT AVERAGED 1:59.4-11 AND WAS

SHIPPED 10,000 MILES DURING THIS TIME FROM JUNE TO DEC.

IF DAN PATCH SOLD FOR \$60,000 IN 1902 AND IS NOW VALUED AT \$150,000.

HIS BEAUTIFUL COLORED PICTURE FREE
PRINTED IN SIX BRILLIANT COLORS

DESCRIPTION. We are owners of this World-Famous Stallion and have gotten out a Magnificent Colored Lithograph of Dan Patch 1:56 1/4, printed in six brilliant colors and size 21 by 28. Dan Patch is universally acknowledged to be a most wonderful horse, and with his combined qualities of champion speed, good breeding, conformation and very kind disposition the opinion is freely expressed by horsemen that he is the Greatest Stallion that has ever appeared on Earth. Agricultural Colleges send to us for his picture to have in their college work. This beautiful picture contains a complete record of all his races and fast miles so that you have his speed history complete. It makes a very fine picture for framing as it is free from advertising. This engraving shows the celebrated Trainer and Driver, M. E. McHenry, and Dan Patch exactly as they appear in their famous mile. The colored picture we will send you is a large reproduction of the above engraving and everyone pronounces it the most lifelike horse picture ever published of a marvelous horse. Every lover of a horse ought to have one of these pictures. The demand is tremendous and over Two Million Copies will be sent out to farmers and horsemen.

IT WILL BE MAILED TO YOU FREE Postage Prepaid

IF YOU ANSWER THESE 2 QUESTIONS—AT ONCE.

1st.—How Much Stock of All Kinds Do You Own? 2nd.—Name Paper in Which You Saw This Offer.

Picture will Not be mailed unless you answer questions "1" & "2"

Largest Stock Food Factory in the World. Address—INTERNATIONAL STOCK FOOD CO., MINN., U. S. A.

DAN PATCH 1:56 1/4, DIRECTUM 2:05 1/4, RAY WILKES 2:06 1/4, are Owned by INTERNATIONAL STOCK FOOD CO.

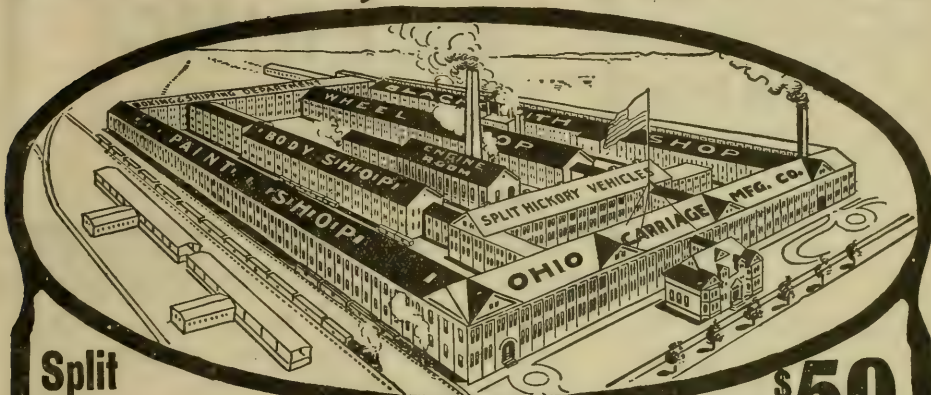
Our Stallions, Brood Mares, Colts, Cattle, Hogs, Etc., Eat "International Stock Food" Every Day.

Jersey, Guernsey and Shorthorn
CATTLE

Young stock registered in their respective Herd books, for sale. The SHORT HORNS are bred and owned by a neighbor, and are in our hands for sale. A number of young BERKSHIRE SOWS due early in the year. BARRED PLY-MOUTH ROCKS, S. C. BROWN LEGHORNS, a few BRONZE TURKEYS, TOULOUSE GEESE and PEKIN DUCKS. All of above ready for delivery.

M. B. ROWE & CO., Fredericksburg, Va.

This Factory is Good for \$50



**Split
Hickory
Special
\$50**



This Factory
Is a Guarantee that Backs up Our

\$50
**SPLIT HICKORY
SPECIAL BUGGY**

TRIAL with a Two-Year Iron-Clad Guarantee. That we make to order and sell on 30 DAYS FREE. We make only Split Hickory vehicles. Expert workmen and modern machinery and methods are employed the year round by us making nothing else but Split Hickory vehicles to be sold direct to users. Back of every Split Hickory Buggy stands this great factory, with its years of successful operation, constantly increasing output; progressive, up to the times in every particular. We will ship promptly, will allow you to use it 30 days before you decide whether to keep it or not, and will give a positive

Two Years Guarantee

Every Split Hickory Special Buggy is furnished complete with good, High Padded Leather Dash, Fine Quality full length Carpet, Side Curtains, Storm Apron, Quick Shifting Shaft Couplings, Full Leathered Shafts with 3-inch Point Leathers, Special Steel Braces and Corner Braces, Full

Leathers, Special Catalogue of Split Hickory Vehicles and Harness.

description of this Special Bargain Buggy at \$50. Send for our Free 136-Page Catalogue of Split Hickory Vehicles and Harness.

NOTE.—We manufacture a full line of high grade Harness, sold direct to the user at Wholesale Prices.

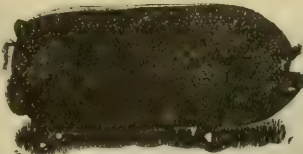
THE OHIO CARRIAGE MFG. CO. (H. C. Phelps, President), 1810 SIXTH ST., CINCINNATI, OHIO.

TWO MODEL HUSBANDS.

Two colored women sitting on their front steps were overheard boasting of the many lovable traits and manly virtues of their husbands.

"Gawge sutainly is a good man to me," said Mrs. Jackson with feeling in her voice. "Ah have nevah been without a day's wash since Ah mahled dat man. He gits me all the wasnin's Ah can do."

"Well, Ah has this to say foah Ezra," declared Mrs. Jackson with satisfaction; "when Ezra gits drunk he gits drunk like a perfe' genneleman."—Caroline Lockhart, February Lippincott's.



Prince Alfred, etc. These are as fine as the world can produce, though I cannot expect fancy prices for them like some breeders get. Bacon your mongrels and start right in the hog business. Remember me when pricing **shortborns** (Durhams).

THOS. S. WHITE, Fassifern Stock Farm, LEXINGTON, VIRGINIA.

I am now prepared to book orders for pigs from imported **Kingstone Poetess**, bred by C.C. Smith, Kingstone Commons, England. Also from **Queen of Fassifern**, bred by James Lawrence, of Shrivvenham, England. Also from **Queen Alfreda**, from imported Loyal Mason, imported Loyal Berks, imported **Princess Alfreda**,

HE TOOK IT IN.

Father B— was a very popular man in the old border town, W—, up in Northern New York. Beloved by Protestant and Catholic alike, he lived a contented life among his people and his books.

At the time of the miners' strike, when the price of coal was soaring, the good Father discovered that the coal supply of the church was practically exhausted and there was no money in the treasury to purchase more. Accordingly he announced that he intended taking up a collection for this purpose, and taking a plate, after his sermon, he went up and down the aisles, giving every one a chance to contribute.

Much to his surprise, as he extended the plate towards one "old son of the sod" he was given a shrewd smile and wink instead of money. The Father, however, thought this meant that Patrick was not prepared to give that day and would do so later.

Not securing enough money at this time, the following Sunday he made another collection, paying particular attention to those who had not given the previous time. Coming again to Patrick, he was greeted in the same manner. Meeting him on the street a day or two later, the Father said, "Patrick, why did you not help us last Sunday?"

"Ah, that's alright, Father, it's alright, an' I niver'll say wan wurd."

"Why, Patrick," said the mystified priest, "you'll not say a word—"

"It's alright—"

"What do you mean?"

"Ha, Father," said Patrick, pulling his forelock, "beg'in' yer pardin', sor, but don't yer think I know that th' church air het be stame?"—February Lippincott's.

FOR 30c AND THIS NOTICE

The John A. Salzer Seed Co., La-Crosse, Wis., send free

- 1 pkg. May 1st Carrot.....10c.
- 1 pkg. Earliest Green Eating Onion.....10c.
- 1 pkg. Peep of Day Tomato.....20c.
- 1 pkg. Salzer's Flash Light Radish.....10c.
- 1 pkg. Salzer's Long Quick, Quick Radish.....10c.
- 1 pkg. Salzer's Queen of All Radish.....10c.

Above six rare novelties, the choicest and finest of their kind, have a retail value of 70 cents, but they are mailed to you free, together with Salzer's big catalogue, well worth \$100 to every wide-awake gardener, all upon receipt of but 30c in postage.

BERMUDA GRASS ROOTS.

50c per bu.; 10 bus. and over, 37½c
P. N. LITTLE, Bold Spring, Ga.

Local agencies and complete repair stocks everywhere

DEERING HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

Reg. HOLSTEIN-FRIESIAN

CATTLE of the Netherland, De Kol, Clothilde, Pietertje and Artis families. Heavy milkers and rich in butter fat. Stock of all ages for sale.

Reg. BERKSHIRES From noted strains, Imported Headlight, Lord Highclere and Sunrise.

DORSET SHEEP

B. PLYMOUTH ROCK CHICKENS,

N. & W. and Southern R. R.

T. O. SANDY, Burkeville, Va.

SUNNY HOME HERD OF

ABERDEEN-ANGUS CATTLE.

BARON ROSEBOY 57666 by the world famous

CAC

GAY BLACKBIRD heads the herd.

Females by such noted sires as Gay Blackbird, 14443, (sire of the highest priced American bred Angus bull), Ermon 18171, (by the champion sire of females Royal Eric), Eulalles Eric 15563, (2nd prize yearling bull at World's Columbian), Beau Bill 13637 (champion of the West for two years), Baron Ida 20184 (champion at N. Y. State Fair 1898), Baronet of Advia 1226 (by the "Judge" champion of the world).

Families represented in the herd are Coquette, Queen Mother, Nosegay, Westertown Rose, Old Rose of Advia, Violet, etc. We claim for our herd as good breeding as any herd in America. The individual animals in the herd have been selected with the one aim "quality" in view. Come and see, or write your order and let us guarantee a first-class animal.

Shipping point and depot, Fitzgerald, N. C., on D. & W., 24 miles S.-W. of Danville, Va.

A. L. FRENCH, R. F. D. 2, Byrdville, Va.

ABERDEEN ANGUS BULLS AT A BARGAIN.

For the next 30 days, you can buy Registered Bulls low, Herd headed by **Allenhurst King IV**, 47199, greatest son of McHenry Blackbird 20, 32499. Pan American champion. Come and see or Address **W. P. ALLEN**, Prop. of **Olen Allen Stock Farm**, WALNUT HILL, VA.



A neat Binder for your back num-bers can be had for 25 cents. Address our Business Office.

MAGAZINES.

The high-lights of the March Century are fiction, personal interest and topics relating to trade.

There is a bit of tragedy in "Antonio's Last Stake," a story of Mexico, by Caroline Abbott Stanley, which is abundantly offset by several humorous stories. Maurice F. Egan's picturesque Sexton Maginnis, "the biggest liar in America," and his mother-in-law, "Herself," characters in "The Valet of the Pastor," reappear in a new story of this group entitled "The Warning of Sexton Maginnis," which makes appeal to all lovers of human nature as well as to the Catholic circles with which it deals. Albert Bigelow Paine contributes a story with a novel motive in "The United Workman," dealing with labor troubles, and Mr. Robert Haven Schaffer a humorous story of an orchestra in "The Man Behind the Drums."

The personal interest begins with the frontispiece of the number, which is a portrait in color of the present Pope. Accompanying it is a paper of anecdotes of the Pope written from recent personal investigation in northern Italy by W. J. D. Croke. Bismarck, whose personality is of perennial interest, is the subject of a paper by the late Henry Villard, descriptive of his visit to the Chancellor in 1890, just after the Prince's retirement.

There are three articles in the industrial and commercial field: "The Paris Bourse," by Cleveland Moffett, elaborately pictured by Andre Castaigne; "Economic Changes in Asia," by the Rev. Dr. Arthur Judson Brown, setting forth trade tendencies as observed by the writer in a recent extensive trip in Asia; and "The Eye of Fear," being a downright consideration of labor unions by a stone-cutter, Mr. Robert Bruce Grant.

The March St. Nicholas opens charmingly with a full-page reproduction of a pastel portrait of Miss Baillie by J. Wells Champney, after Gainsborough, a sweet girl's figure and face with deep, thoughtful eyes. The first story is of "Two Lads of Old Kentucky," by Virginia Yeaman Remnitz. Herbert Balrd Stimson tells an interesting and true "Tale of the Cannibal Islands." F. M. Jessup relates "Three Little Stories of Jehce," a queer old Syrian humorist. "Lazy Coomarasawmy" is an East Indian fairy tale related by George Sylva. "How Proby Saved the Woods" is a brave story of a brave boy; and "A Comedy in Wax" develops most exciting interest.

In other fields the March St. Nicholas seems more than usually rich. There is a pretty description of "How Daubigny Decorated His Little Daughter's Room." George Ethelbert Walsh tells the wonderful story of "Cutting a Hemisphere in Two," the fascinating history and possibilities of the Panama and Nicaragua canals.



No. 6 Iron Age Double and Single Wheel Hoe, Hill and Drill Seeder.



No. 6 Iron Age Horse Hoe and Cultivator.

If the Farmer Had Plenty of Help

almost any kind of implement would do. He could plant by hand and cultivate by hoe. It might be good work; it would surely be expensive work. With good help scarce and all help high, the farmer or gardener who wins must equip himself with the implements that make his help the most productive.

IRON AGE

Implements

are built to get the greatest possible results for labor expended—whether hand or horse. There is an Iron Age tool for every condition of every crop that can be cultivated.

The No. 6 Iron Age Combined Double Wheel Hoe, Hill and Drill Seeder combines ten tools in one; a daily necessity from April to October.

The No. 6 Iron Age Horse Hoe and Cultivator has a range of adjustment and adaptability that makes it earn its cost time and again in the field or truck farm.

The Improved Robbins Potato Planter will plant from four to seven acres per day. Has fertilizer attachment, and will drop 100 per cent. of the seed correctly.

The Iron Age Pivot Wheel Cultivator is built correctly in material and principle. Fine for hillside, plains, straight or crooked rows.

Our New Iron Age Book describes a line of implements that are backed by 68 years of reputation. Their promise for the future can be judged by their performance of the past. Send for the book. It's free.



Improved Robbins' Potato Planter.



No. 60 Iron Age Pivot Wheel Cultivator.

**BATEMAN
MFG. COMPANY,
Box 167,
Grenloch, N. J.**

CISMONT DORSETS

CISMONT STOCK FARM offers well developed young
Dorsets of the best blood of England and America.

Prices Reasonable.

G. S. LINDENKOHL, Keswick, Albemarle Co., Va.

THE OAKS

OFFERS FOR SALE AT LOW PRICES **2 SHORTHORN BULLS,**

Rising 1 yr. old; a solid red with white points and a rich red roan. Eligible to registry. Also a pair of MORGAN COLTS, 13 hands, 2 inches high.

B. B. BUCHANAN, Bedford City, Va.

A SUCCESSFUL BUSINESS.

Is the Lord & Thomas Advertising Agency the Head of Which Retired February 1st.

Possibly there is no line of industry in the United States that has grown in such proportion in recent years as that of general advertising, which includes publicity in newspapers and magazines and outdoor display advertising, and through its tremendous force the entire basis of modern merchandising has been revolutionized.

The Chicago papers of the current week devote much space and time to the wonderful growth of the advertising business as a whole, and that of Lord & Thomas in particular, owing to the retirement of Mr. D. M. Lord, the senior member of the firm, who leaves active business life with a rich competence.

The business of Lord & Thomas has been one of the most aggressive and progressive of its kind in the country, having in recent years been under the active management of Mr. A. L. Thomas, whose judgment on advertising matters is considered as authoritative by the vast body of publicity users. Mr. Thomas has succeeded Mr. Lord in the presidency and will continue at the head of the firm.

Mr. C. R. Erwin, the new Vice-President, has been connected with the company for 20 years and is therefore a veteran in the field; associated with him and Mr. Thomas is Mr. A. D. Lasker, the Secretary and Treasurer.

To give some idea to the public of the growth of advertising as a whole, it might be stated that in two years the business of Lord & Thomas alone has increased one million dollars in the billing, and in the one month of January in 1904 this house has booked \$750,000 in advertising contracts from the following concerns, whose names are household words in the United States: Anheuser-Busch Brewing Ass'n, St. Louis; Siegel, Cooper Company, New York; Woolson Spice Company (Lion Coffee) Toledo, Ohio; Hamilton-Brown Shoe Company, St. Louis, Mo.; Sterling Remedy Company, (Cascarets), Chicago and New York; The Woman's Magazine, St. Louis, Mo.; Armour & Co., Chicago; Michigan Stove Co., Detroit and Chicago; Union Pacific Railroad Co., Omaha; Chicago, Milwaukee & St. Paul Ry. Chicago; Rock Island R. R. System.

Thirty-five years of wide experience in handling the publicity of a large proportion of America's most successful advertisers have fitted Lord & Thomas to give most judicious and profitable service to enterprising business firms in every line.

The main offices of Lord & Thomas are in the Trude Building, Chicago, and its Eastern Branch is in the American Tract Society Building, New York.

Local agencies and complete repair stocks everywhere

CHAMPION HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.


MEAT AND EGGS

DO YOU WANT THEM NEXT WINTER AND SPRING?

Then why not get eggs from probably the largest egg and broiler plant in the state. My stock is thoroughbred Barred Plymouth Rocks, bred to lay. The broilers of this breed are given a strong preference on the Richmond market.

Eggs \$1.00 per 15; \$2.00 per 40; \$4.00 per 100.

ADDRESS **H. C. WARD,** East Richmond P. O.
R. F. D. No. 3, Va.




Barred Plymouth Rocks

Pope & Pope

Proprietors - Cozy Nook Poultry Farm.

Louisville, Ky.



...EGGS FOR HATCHING...

Our yards are noted for the size, vigor and health of the birds. They are big fellows, prize winners and heavy layers. Our matings for this season are especially fine, and, if you want ribbon winners, it will pay you to order eggs from us. Cozy Nook Farm is one of the most perfectly equipped plants of its size in America. Headed by birds scoring 92 1-2 to 94 1-2. We cull our eggs closely. They will give you fine, sturdy chicks. Price, \$2.00 per setting of 15 packed in our special baskets.

POPE & POPE, - LOUISVILLE, KY.

S. C. WHITE LEGHORNS

Of fine quality. Great laying strain. Prices very reasonable. Satisfaction guaranteed. Write for prices before buying elsewhere. C. G. A. FINK, R. F. D. 2, Richmond Va.

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Virginia Fire and Marine Insurance Company, of Richmond, Va.

Insures Against Fire and Lightning.

All descriptions of property in country and town, private or public, insured at fair rates, on accommodating terms.

AGENCIES IN EVERY TOWN AND COUNTY.

W. H. PALMER, President.

W. H. McCARTHY, Secretary.

REPORTS.

- U. S. Department of Agriculture, Washington, D. C. Bureau of Soils. Circular 12. Reclamation of Alkali Land near Salt Lake City, Utah.
- Bureau of Statistics. Circular 15. Foreign trade in Farm and Forest Products.
- Office of Experiment Stations. Bulletin 39. Special and short courses in Agricultural Colleges.
- Office of Experiment Stations. Experiment Station Record, Vol. XV., No. 1.
- Farmers' Bulletin 55. The Dairy Herd. Its formation and management.
- Farmers' Bulletin 185. Beautifying the home grounds.
- Farmers' Bulletin 186. Experiment Station work. Losses in manure. Rations for laying hens, etc.
- Farmers' Bulletin 187. Drainage of farm lands.
- Farmers' Bulletin 189. Information concerning the Mexican Cotton Boll Weevil.
- Farmers' Bulletin 191. The Cotton Boll Worm.
- Arizona Experiment Station, Tucson. Ari. Fourteenth annual report year ending June 20, 1903.
- Cornell Experiment Station, Ithaca, N. Y. Bulletin 214. The ribbed cocoon maker of the apple.
- Kansas Experiment Station, Manhattan, Kas. Bulletin 120. Tests of forest trees.
- New Hampshire Experiment Station, Durham, N. H. Bulletin 103. Standard milk.
- Ohio Experiment Station, Wooster, O. Bulletin 142. Clover and alfalfa seeds.
- Bulletin 144. Experiments with sulphur sprays for the fall treatment of San Jose scale.
- Bulletin 145. Studies in Potato rot-sette.
- Pennsylvania Experiment Station, State College, Pa. Bulletin 64. Methods of steer feeding.
- Virginia Department of Agriculture, Richmond, Va. Annual report of the Department for 1903.
- Virginia (Hampton Institute.) Nature study leaflet No. 3. How to know trees by their bark.
- Virginia Weather Service, Richmond, Va. Report for January, 1904.
- West Virginia Experiment Station, Morgantown, W. Va. Bulletin 89. Rural water supply.
- Bulletin 90. Sheep feeding experiments. Notes on parasites.
- Imperial Department of Agriculture for the West Indies, Barbados. W. I. Barbados and Porto Rico molasses.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Almost at Butchers Price, Fancy Herd of POLAND-CHINAS

We sold 20 pigs, boars and gilts at \$8 each. We still have a lot of the same size at the same price.

We have some smaller, about 60 to 80 pounds, at \$7 each.

We offer 7 fine brood sows and 10 gilts (150 to 200 pounds), at 7 cents per pound, live weight, f. o. b. Doswell.

These prices just about pay crating and other expenses above butchers' prices. All stock not sold March 20th will go to the butcher.

Here is a chance for starting pure bred P. C. herds at small cost—the very best strain.

We do not furnish pedigree, though all our stock is eligible to registration. All stock offered, with the exception of the seven sows, are by our herd boar, a son of Proud Perfection. The seven sows were bought of reliable breeders. Five are of Tecumseh B. strain.

Mr. W. J. Longan, Dunreath, Va., writes: "Am very much pleased, more than I expected." He ordered another pig for a neighbor, Mr. W. J. Crank. Mr. J. W. Nunn, of Louisa, Va., saw the pig and ordered another.

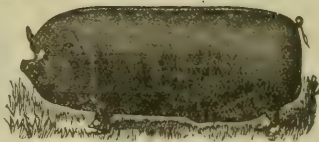
Mr. W. S. Eaton, Morehead City, N. C., writes: "I am happy when dealing with such men." Address,

BULLFIELD FARMS, Doswell, Va.

We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

Proprietor of the Bridle Creek Stock Farm, Warrenton, N. C.



SPECIAL BARGAINS IN HOLSTEIN-FRESIANS.

From a few months to 1 year old, from dams that a large producers, and with strong, official backing on both sides. The sire is half the herd; it is important that you get the right one. We have that kind, and our prices are no higher than others are asking. **LARGE ENGLISH BERKSHIRES**, by such sires as Manor Faithful Imp., Esau Princess of Hiltson, by Esau Imp., Fancy Duke, a double G. son of Loyal Berks. Address

URY STOCK FARM,

THOS. FASSIT & SONS, Symar, Md.



CHESTER WHITES.

Registered herd—First Premium Stock—largest and most prolific hog on record. —sows 11 pigs breeding stock 400 to 700 pounds, easy breeders; service boars; sows bred. —Fancy Pigs for sale. My time to this breed for 9 years. The best money can buy and feed produce.

P. M. FUNKHOUSER, Winchester, Va.

References: Farmers and Merchants National Bank, Winchester, Va.

MR. CARNEGIE WAS BUSY WITH AFRICA.

A crank of the gentler sort recently wrote to Andrew Carnegie, calling his attention to the fact that the Esquimaux could not advance morally and intellectually so long as they had to expend all their energy in keeping warm and seeking food; therefore it was the clear duty of their neighbors further south to aid them in overcoming the disadvantages of their *habitat*. To this end the writer proposed that Mr. Carnegie equip a fleet of coal-laden steamers, which, during the summer months, should cruise along the Greenland coast, leaving supplies of coal wherever needed for winter consumption. Stoves, cooking utensils, etc., were also to be given to the natives.

Mr. Carnegie, it is said, dictated the following letter to his secretary:

"Dear Sir,—Yours is received. I am considering a plan to supply the natives of equatorial Africa with ice cream and electric fans; hence I cannot entertain your excellent proposition just now."—Success.

CHEERING THE INVALID.

Mrs. Barr, an elderly Scotchwoman, had been seriously ill for weeks, during which time even the members of her immediate family had been excluded from the sickroom. At last, however, she so longed to see her relative that it was deemed advisable to admit them, one at a time. When the moment for Mr. Barr's visit arrived the trained nurse cautioned him against showing too much emotion over his wife's changed appearance.

"What you must do," said the nurse, "is to cheer her up. You must tell her how much better she is looking, what a nice color she has in her cheeks, and how bright her eyes are. Above all things, you must be cheerful."

Mr. Barr promised faithfully to say the proper things; but when he approached the bedside and beheld the pitiful ravages that illness had made in Mrs. Barr's once plump countenance, he became so agitated that he forgot the nurse's caution and exclaimed, in the rich Scotch brogue that strong emotion always called forth:

"Oh Maggie, Maggie, woman! *whaur* wad ye like to be burrit?"

"Ye'll no get a chance to bury me this time, William Barr," returned the invalid, with unexpected spirit. "Ye're altogether too anxious."

It was afterwards said that Mrs. Barr's rapid recovery dated from that moment.—Carroll Watson Rankin, February Lippincott's.

Flo.—You don't seem to be at all nervous about going to ask papa for me, she said.

Fred.—Oh, no! I've had experience both as an advertising solicitor and an insurance agent. This'll be easy.

HOG BOOK FREE!

The points most essential to successful hog raising, as found in my 28 years experience as a specialist in the care of hogs and the treatment of their diseases are treated in a thorough and practical manner in my book, "HOG RAISING," which swine experts pronounce the best book of the kind published. (One hundred pages, fully illustrated. FREE if you mention this paper when asking for it.



TRADE-MARK.

CASH FOR ALL HOGS THAT DIE

When my remedy is fed as a preventive. Write for plan. This is a bona fide offer and you should consider the difference between it and the "would-be guarantee" whereby you are "promised" a refund of the cost of the preparation if results are not as claimed. A guarantee that does not put the value of the animal in your pocket, in case of loss, is unfair to you.

PRICES FOR REMEDY: 25-lb. can, \$12.50; 12½-lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

JOS. HAAS, V. S., - - Indianapolis, Ind.



Dr. A. C. Daniels.

DR. A. C. DANIELS

Can save you Money, save your Horse,
save your Mule or save your Cow.

Home Treatment for Horses and Cattle.

Sick and Lame Horses Made Well. Weak Cows Made Strong. Better Breeders and Milkers.

Book for the asking of your druggist or dealer, or send to

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Black Leg Vaccine

PASTEUR VACCINE CO. CHICAGO SAN FRANCISCO

—REGISTERED—

POLAND-CHINA

Pigs from 4 to 6 months old. Boars ready for service, and young sows with pigs. Tamworth pigs 8 wks. old \$5. Prices Reasonable. Apply to

J. C. GRAVES, Barboursville, Va.

For a fine assortment of Apple Trees, a bargain in Plum Trees, fine lot of extra sized Rose Bushes, choice varieties, Hardy Ornamentals, specimen shaped bushes, Spireas, Weigelias, Deutzias, Hydrangeas, etc.,—go or apply to

GEO. E. MURRELL ORCHARD & NURSERY CO.,

Fontella, Virginia.

Send for our Descriptive Catalogue—IT'S FREE.

THE BEST IN TWENTY.

"I should like to call attention to the merits of the SOUTHERN PLANTER. It is a paper that truly espouses the cause of the farmer. A young farmer of this vicinity, after examining sample copies of over twenty agricultural journals published in the Middle and South Atlantic States, decided that it was unequalled for the farmers of this section. It advocates improved stock, intelligent fertilizing, cropping, etc., giving hints and advice on all pertinent subjects that are invaluable. This journal has been a great factor in developing the agricultural interests of the South."

We clip the above from the Virginia Citizen, published at Irvington, Va. We can assure the publishers and their correspondent, unknown to us, that we appreciate very highly this compliment. We shall always try to deserve it.

THE LIVE LIST FOR 1904.

We are in receipt of a very neat and handy booklet of the above title from the International Stock Food Co., Minneapolis, Minn. This booklet includes all trotters and pacers marked in 2:20 or better in 1903 and liable to race in 1904. It strikes us that all horsemen will want this book at once. It is certainly a compact and handy reference and we invite all interested to send for it. This live, progressive and aggressive company is always doing something worth while and we never see anything from their presses that is not well worth having. This company manufactures the well known International Stock Food and advertises with us regularly. They have a card in this issue, to which we invite attention.

MONEY FOR SPRAYER SELLERS.

As a money making proposition, there is attractive reading in the little advertisement elsewhere of the Compressed Air Kant-Klog Sprayer of the Rochester Spray Pump Company of Rochester, N. Y. The basis of this proposition is the best all purpose sprayer made. It mixes the liquid, throws nine different kinds of spray from the same nozzle and is perfect working and perfectly adapted to all uses. It is a marked improvement on anything in the compressed air type of sprayer heretofore made. Because of its nice adaptability to everybody's use, it sells on sight. A good many agents are reaping a harvest from handling it. Through the terms offered by the manufacturer, they are able to make a nice thing in a legitimate way, furnishing to buyers an article of constant great service for everyone who raises trees, shrubs and vines. Any of our readers interested should look up this little ad and write the manufacturer for terms.



How To Test Coiled Spring Wire.

Take a piece of No. 12 wire and coil it firmly around an inch rod or iron, as shown in figures 1 & 2. Try to pull the coil out of it. You may think you have done so, but upon releasing, it will assume the shape shown in figure 3. Then look along the wire as you would a gun barrel; it will appear as shown in figure 4—has the appearance of a tube.

This explains the great advantage of COILED SPRING WIRE and how it provides for contraction and expansion.

The weave of our fence is so perfect that full strength of every wire is preserved.

Every twist is an expression of strength. Good enough to last a lifetime. We make it ourselves. Best wire makes the best fence. We ship any style of fence we make DIRECT TO THE FARMER ON 30 DAYS TRIAL, AT FACTORY PRICES.

Freight prepaid. Please write. We want to send you our Catalogue. It is free.

KITSELMAN BROTHERS, Box 270, Muncie, Indiana, U. S. A.

ROSEMONT HEREFORDS.

HEADED BY THE FAMOUS ACROBAT 68460,

SPECIAL NOTICE! 10 nice, well-bred heifers, safe in calf to Acrobat, will be sold at very reasonable figures.

ROSEMONT FARM, Berryville, Clarke Co., Va.



Registered • Herefords,

Herd headed by the Grand Champion

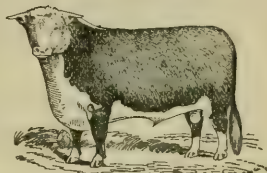
PRINCE RUPERT, 79539.

FOR SALE: 4 Bull calves, 8 to 12 mos. old.

All enquiries cheerfully Answered.

EDWARD G. BUTLER,

Annefield Farms. BRIGGS, Clarke Co., Va.



PRINCE RUPERT, 79539.

Bacon Hall Farm.

Hereford Cattle :- Berkshire Hogs

REGISTERED—ALL AGES.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

E. M. GILLET & SON, - Glencoe, Maryland.

REGISTERED
HEREFORD CATTLE.

Service Bulls; Imported Salisbury 76059 (19083), a grandson of the famous Grove 3d 2490, and a descendant of the world renowned Lord Wilton 4057 from the 4th generation.

Snowball, the dam of Salisbury, is now in the herd of His Majesty King Edward VII.

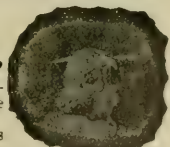
Lars, Jr., is by Lars of Western fame and his dam is Judy out of a Sir Richard 2nd cow. This makes a great combination of the Grove 3d, Lord Wilton, Anxiety, Peerless Wilton and Sir Richard 2nd strains. No better breeding in the world today.

FOR SALE—Yearling bulls by above sires. WANTED—Reg Hereford heifers, 18 to 24 months old, not bred; will exchange bulls for heifers of equal quality.

Extremely low prices to close out this bunch; only a few left.

Write your needs or call and make your own selection.

MURRAY BOOCOCK, Owner, Keswick, Alb. Co., Va. Keswick is on the C. & O. Ry. near Charlottesville, Virginia.



DE LOACH SAW MILL.

The saw mill plant of the De Loach Mill Manufacturing Company, of Atlanta, Ga. who are regular advertisers of ours is said to be the largest of the kind in the world. They not only have size to their credit, but have every other advantage, such as cheap labor, and an abundance of the best lumber, steel and iron at hand to turn out a superior product. They thus have every facility for making good their claims of making the best saw mills in the world for the money. Upwards of twelve thousand of the De Loach Mills are now in use in all sections of the country. This fact alone is strong evidence of the high character they bear.

The same concern makes a long line of machinery closely related to the saw mill, such as lath mills, shingle mills, edgers, planers, etc. Also grinding mills, water wheels, gearing, pulleys, shafting, etc.

The De Loach catalogue is a valuable machinery book for any one interested. It is mailed free.

VIGOROUS PIGS.

The health and vigor of the new-born pig is an important factor, determining as it does in most cases, the profit or loss on that particular animal for its owner in bringing it to maturity. It would be impossible to avoid all such losses but the number can be reduced to the minimum if proper attention is given to the breeding stock and this refers especially to the care of the sow from the time she is bred until her pigs are weaned. This important subject is thoroughly discussed in "Hogology" a most valuable treatise on hog raising, by that eminent swine specialist, Dr. Jos. Haas, V. S., of Indianapolis, Ind. This book will be sent free to any of our readers who will mention this paper when asking the Doctor for it. It is well worth the time of any hog raiser to read it.

We have just received a beautiful lithographed hanger or poster printed in ten colors, sent out by the manufacturers of the "Iron Age" Farm and Garden Implements, Bateman Manufacturing Company, Box 167, Grenloch, N. J. Many thousands of these are being hung up throughout the country in conspicuous places, where farmers and gardeners cannot help but notice them. Besides showing clearly several of their leading "Iron Age" tools in operation in the field, it shows the factories of this company. We wish to here give the assurance to our readers, that the tools as offered by this company are thoroughly up-to-date and all implements manufactured by them, whether bought direct or indirect, are guaranteed to be as represented. Their 48-page "Iron Age" catalogue is sent free upon application.

SEED POTATOES



We have a select stock of Maine grown and second crop Virginia grown seed potatoes of all the best and standard varieties. We have also a nice stock of grass and clover seed, seed grain, onion sets and all vegetable and flower seed of the highest quality and germination; fertilizers for all crops, write us for prices.

CATALOG MAILED FREE.

DIGGS AND BEADLES, 1709 East Franklin Street. RICHMOND, VA.

Sparks' Earliana Tomato

Pays big—earliest large smooth tomato ever grown. Uniform size; beautiful color; three times as productive as any other.

15c pkt.; 40c ½ oz.; 80c oz.; \$2.50 ¼ lb.; \$9 lb.

Quick-Cash Cabbage

Well named. Yields more to the acre and earlier than any other cabbage. Its solid flat heads can be marketed before fully grown. Most profitable and desirable early cabbage ever offered.

15c pkt.; 30c ½ oz.; 60c oz.; \$2 ¼ lb.

Garden and Farm Manual—Free

JOHNSON & STOKES Department A4

By Special Appointment "Seedmen to the Money-Makers"
217-219 Market Street Philadelphia

1,000 BOYS WANTED
TO GROW CORN \$200.00 IN CASH PRIZES

OUR BIG TWENTIETH Annual Illustrated Catalog tells you all about it. It also gives you full and accurate descriptions of all the seeds and crops that grow. All our seeds are fresh and new; grown in 1903 and guaranteed to grow. Our mail order prices, postpaid, are cheaper than others sell same seeds at wholesale. The catalog, a fine affair, mailed FREE to all who want to buy seeds of any sort, if you only mention this paper. Address.

RATEKINS' SEED HOUSE, Shenandoah, Iowa.

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Fine Premiums For Selling SEED

All you have to do is send us your name and address. We send you 30 packets FRESH SEED, sell them at 3 cts. each return 90 cents to us, and we send you at once, postpaid, this Sterling Silver Finish Purse, with 4 ft. chain; this beautiful, or any of 50 articles described in our large premium list sent with SEEDS. BIG CASH COMMISSION TO AGENTS. Write today
M. J. RISDON SEED CO. Risersdale, Maryland.

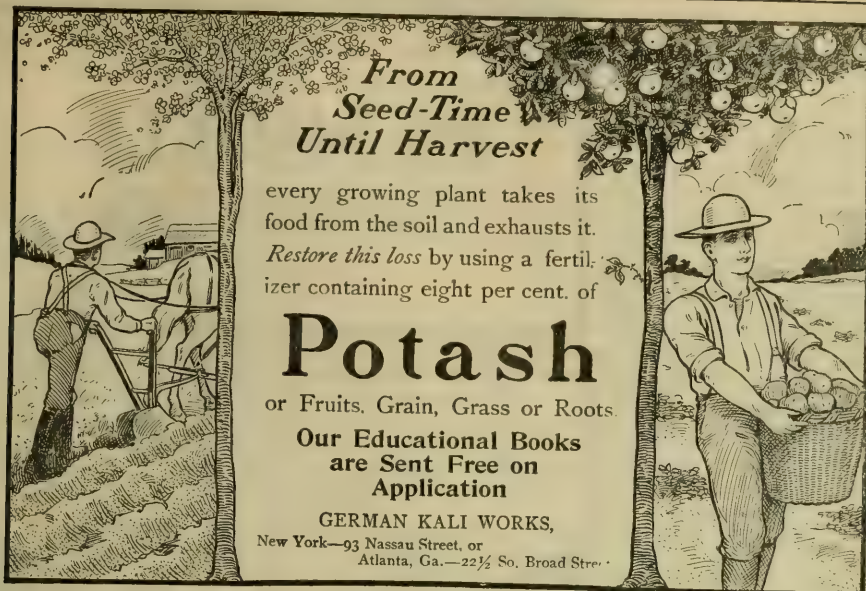


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Seed-Time
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every growing plant takes its food from the soil and exhausts it. Restore this loss by using a fertilizer containing eight per cent. of

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THE "STAR"

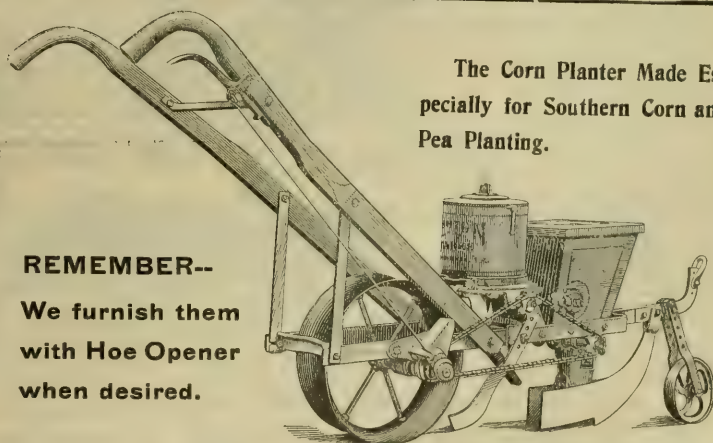
CORN

PLANTER

REMEMBER--

We furnish them
with Hoe Opener
when desired.

The Corn Planter Made Es-
pecially for Southern Corn and
Pea Planting.



It does, and does well, everything a planter should do. Drills or drops at any distance any number of grains. It handles corn, peas, beans etc., equally well.

Every grain is seen as it falls to the ground.

The planters are furnished with runner openers or shovel openers.

Thousands in use all over the South, and demand increasing every year.

As of all good things, there are imitations, but see that you get the GENUINE WITH OUR NAME CAST ON THE TOP OF GRAIN HOPPER.

Don't be mislead by being told some other planter is just as good; pay more if necessary and get a "STAR."

ASHTON STARKE, RICHMOND, VIRGINIA.

A MERE MATTER OF CURIOSITY.

He was a long, lank countryman. He entered the car, and took his seat next to a well-dressed man of middle age, who sat evidently absorbed in his morning paper. Immediately he had seated himself he began a rapid fire of questions directed at the gentleman with the newspaper.

He asked him how many miles an hour he thought the train could go at its full speed; and if he didn't like the looks of the country they were passing through; and what he thought of the chances for crops down his way; and if he didn't think the trusts were bleeding the country; and wasn't he of the opinion that politics had gone to the dogs, anyway, and the whole land going to ruin; and didn't he think that Grover Cleveland was the greatest man that ever lived; and what was his opinion in regard to the Spanish war. At last the man with the newspaper grew impatient.

"My friend," he said. "I've answered a number of your questions, and now, if you have no objections, I'd like to have a chance to read my paper."

"Sure," his interrogator replied. "I won't bother you any more; but stranger, there's just one more question I'd like to ask. Just answer me this one, and I'll shut right up. I see you've got just one leg. How'd the other one come to be off?"

"If I answer this, you'll promise not to ask another question?"

"Sure," replied the countryman, with an emphatic nod of the head.

"Well, then, I'll tell you. It was bit off."

The recipient of this piece of information stared hard at the gentleman with the newspaper, but he made no comment. Finally the situation became unendurable; he shifted restlessly in his seat, and his breath came hard. At length he rose, and started down the aisle.

"I've given my word for it," he said, "and I'm not the man as goes back on his promise; but I'll be damned if I wouldn't give a peck of the best potatoes on my place to know what it was this side of Perdition that could have bit that man's leg off."—
March Woman's Home Companion.

REMUNERATIVE.

"Well, Bobby, how do you like church?" asked his father as they walked homeward from the sanctuary, to which Bobby had just paid his first visit.

"It's fine!" ejaculated the young man. "How much did you get, father?"

"How much did I get? Why, what do you mean? how much what?" asked the astonished parent at this evident irrelevance.

"Why, don't you remember when the funny old man passed the money around? I only got ten cents."—
March Lippincott's.

Local agencies and complete repair stocks everywhere

MILWAUKEE HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

Planet Jr. No. 4 is King.

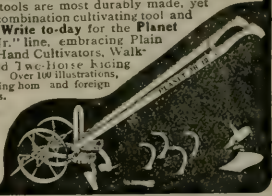
Shown below on the left. It is an outfit which every gardener ought to have. It is a seeder which plants in hills or drills. It is a Hoe, Cultivator, Plow. Operator can quickly convert from one to the other and there's hardly a limit to its separate duties, such as opening seed trench, dropping seed, covering, rolling, hoeing, cultivating, furrowing, riding. Works between or astride the rows, throws earth to or from plants. Most ingenious devices for sowing, marking, adjusting hand-dies, etc. Strong, durable, simple and light running enough for boy's work.

Planet Jr. No 12

The other tool shown, hoes, cultivates and plows. It works between or astride the rows, and throws earth to or from the plants. Wheels, frame and tools are most durably made, yet of requisite lightness and ease of running. For a combination cultivating tool and nicety of work its equal cannot be found. Write to-day for the Planet Jr. 1904 Catalog. It shows the "Planet Jr." line, embracing Plan and Combined Seeders, Wheel Hoes, Hand Cultivators, Walking Cultivators, Hoes, Plows, Ore and Two-Horse Hoes, Cultivators, Beet Sugar Cultivators, etc. Over 100 illustrations, including 16 beautiful half-tones showing home and foreign farm and garden scenes.



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Made for the Man
Who Wants the
Best.



THE GREAT WESTERN Manure Spreader

Is the only Spreader made that has an ENDLESS APRON and spreads line, plaster, wood ashes, cotton-seed and many advantages which it possesses. It is always in place and ready to receive the load without any turning back either by hand or complicated, easily broken machinery. The front and rear axles are of same length which, with the

Broad Tires Prevents Rutting of fields, meadows, etc. and makes

LIGHT DRAFT. SPREADS ALL KINDS OF MANURE, wet, dry, frozen, light, chaffy, packed or caked. Spreads line, plaster, wood ashes, cotton-seed and all other material in every way. Has the only successful END GATE AND BEATER AND HOOD PROTECTOR IN USE. Made of best material in every way. Has the only successful POSITIVE GUARANTEE as to quality, capacity and durability. All parts breaking within one year under a POSITIVE GUARANTEE will be replaced without charge. Write for free illustrated and Descriptive Catalogue—the best and most complete spreader Catalog ever published.

SMITH MANURE SPREADER CO. 16 & 18 S. CLINTON STREET, CHICAGO, ILL.

SUCCESS Manure Spreader



Leads every other machine for the mechanical spreading of manure. Its superiority appears in the fact that it is a distinct improvement on the Kemp Spreader, which we still manufacture and which has been the typical Spreader for 25 years. Spreads all manures of every character and condition and all commercial fertilizers in 3 to 6 minutes; apron automatically returns to position in the next 60 sec. driven.

A SPECIAL FEATURED MACHINE for convenience of handling and perfection of work. Notably superior in its Heater Freeing device. Direct Chain Heater Gear, Speed Regulation and Automatic Return of Apron. Positive and dependable in all movements. Simplest in gear, lightest in draft, least chance for breakage. The driver never dismounts for any purpose but controls everything from his seat. Made in four sizes and sold under strictest guarantee as to materials, workmanship and duty. Investigate fully before buying. Catalogue with valuable chapter on farm fertilizing mailed free. KEMP & BURPEE MANUFACTURING CO. BOX 205, SYRACUSE, N. Y.

WILKES. X NUTWOOD.

WEALTH, 29579—RECORD 2.10

Sire Gambetta Wilkes, 2:19 $\frac{1}{4}$, the leading sire of 2:10 performers, leading sire of new standard performers for 1902 and 1903, with total of 147 in 2:30 list, one of the best sons of the immortal George Wilkes, one of the founders of the American trotter.



Dam, Magnolia, by Norfolk, he by Nutwood, 2:18 $\frac{3}{4}$, sire of 178 and of dams of 170. The founder of one of the best families of trotting bred horses, 2nd dam Beck Collins, dam of Choctaw, 2:30, by Woodburn Hambletonian, 1639, 3rd dam, Rebecca (thoroughbred), by Blucher. Wealth, 2:10, foaled 1897, is dark bay, 16 hands, weight 1,200 pounds, of beautiful shape, style and finish, good disposition and commanding appearance. His breeding represents the cream of trotting families, he being a cross of the Wilkes on Nutwood blood, with a strong thoroughbred foundation. His record, 2:10, is not his speed limit, as he has gone quarters and even halves at a 2 minute gait. 1903 was his first season in the stud, though he has sired a filly which trotted in 2:25 in her 2 year old form. Wealth will transmit his speed and style to his off-

spring. Mr. Cecil, owner of Gambetta Wilkes, in a letter dated January 14, 1904, says: "Wealth, 2:10, is as sure to be a very great sire as we both live." Breed to him. Mares bred at \$20. the season, with usual return privilege. Mares sent me will receive best of care at \$1.50 per month on grass, or if on grain at actual cost.

S. F. CHAPMAN,

CLIFTON FARM, - - - GORDONSVILLE, VA.



BUG DEATH PAYS!!!

12 $\frac{1}{2}$ -2 lb. Box \$1.00; 100 lb. Keg \$7.00.;
DUSTER FOR APPLYING DRY, 25 $\frac{1}{2}$ cts.;

Extra yield more than pays entire cost. Prevents blight, produces better quality. CONTAINS NO ARSENIC—KILLS THE BUGS on potato, squash and cucumber vines.

Kills current, gooseberry and tomato worms, and all bugs that eat the leaves of plants, trees or vines.

HORSE POWER SPRAYER \$65.00 HAND SPRAYER \$15.00
FOR APPLYING IN WATER.

Danforth Chemical Co.,
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BOBBY'S BARGAIN.

Henry and Bobby, ages eight and ten respectively, were little boys who thought and had tendencies. In consequence of which, at times, they were a source of great embarrassment to their mother, Bobby, in particular, had the moneymaking propensity. He saved his pennies religiously, and his eye was keen for a bargain.

One evening at dinner their father had as a guest a gentleman who was a great horseman. The boys listened attentively to the conversation for awhile, then Bobby opened fire with,—
"Say, Mr. Smith, can you buy a horse for a hundred dollars?"

"Yes, Bobby," said Mr. Smith, "you can."

"Can you get one for fifty dollars?"

"Yes."

"For twenty-five dollars?"

"Yes."

"For ten dollars?"

"Yes."

"For seven dollars?"

"Perhaps."

"Seven dollars, really?" said Bobby wonderingly. "Would the horse be awfully fast?"

"Well," said Mr. Smith, smiling, "you would not be likely to get a Lou Dillon or a Dan Patch, but the creature might be able to pull a plough."

Bobby thought for a moment; then, "But, Mr. Smith, could a horse you paid seven dollars for have a colt?"

"Possibly," said Mr. Smith gravely. "I have seven dollars in the bank," continued Bobby; "I guess I'll get a horse. For if a seven-dollar horse could have a colt, and that colt have a colt, and that colt have a—"

Bobby's mother and father and Mr. Smith became seriously interested in the salad; the youthful Henry began to fidget; the embryo stock farm continued to grow—"and that colt have a colt, and that colt have a colt, and that colt—"

Henry could stand it no longer. Turning to Bobby, he remarked in a tone of impatience, "Say, as soon as you think you have the worth of your money would you mind passing the bread?"—March Lippincott's.

GOT WHAT THEY WANTED.

Over in the mosquito country an old farmer died. He was reputed to be rich. After his death, however, it was found that he died penniless. His will was very brief. It ran as follows:

"In the name of God, Amen. There's only one thing I leave. I leave the earth. My relatives have always wanted that. They can have it."

"BILL L. INDNER."

—March Lippincott's.

"After all," suggested the cheerful one, "it may be a blessing in disguise." "If so," returned the disgruntled one, "I may say that I never saw a more perfect disguise."—Washington Post.

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TWO CROP ESSENTIALS



are cultivation and keeping down weeds. More important than deep cultivation is keeping the surface stirred, breaking the crust due to rains, and allowing the light, air, moisture and warmth to penetrate quickly to the roots of the growing plant. For doing just these things the ideal implement is the

KEYSTONE Adjustable Weeder and Shallow Cultivator

It kills the weeds at first showing, the top soil is pulverized and kept mellow, the plant roots are not disturbed and the moist soil is not brought up to dry in the sun. Adjustable in width. Narrows to 30 inches, widens to 7½ feet. Strong and steady running. Furnished either with round teeth or with flat teeth to suit different soils, as we are located to manufacture the famous Harlick flat teeth. Write today for catalog and booklet of field scenes showing full tone pictures from photographs of weeder in actual use. Both free for the asking.

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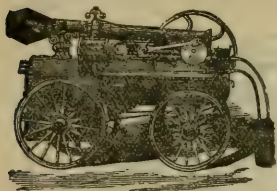
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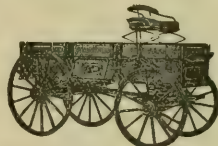
SPIKE HARROW.



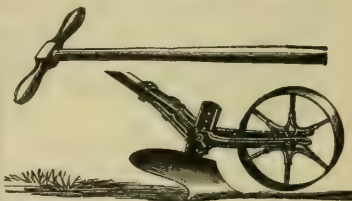
GEISER SAW MILL.



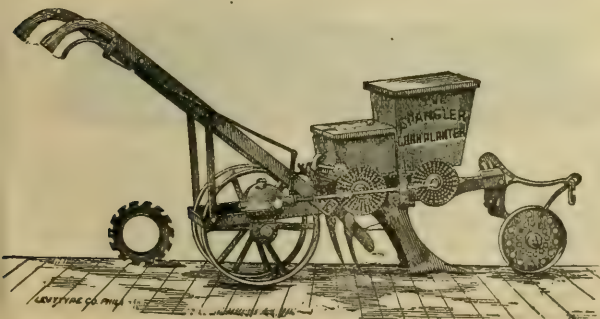
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The Spangler Planter has a side gear which convenient and practical. The quantity of corn to be dropped can be regulated instantly without changing the quantity of the fertilizer sown, or the quantity of the fertilizer can be changed without affecting the corn dropping, and either can be discontinued in an instant and not sow at all.

Hoosier Single and Double Row Planter, made entirely of steel, except handles—a very durable machine—Black Hawk, and John Deere single and double row planters.

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UNDECIDED.

One day a certain Professor of Mathematics at O. University prepared to set out on a short journey on horseback. He was an absent-minded person, and while saddling the animal was thinking out some intricate problem. Some students stood near and watched him abstractedly place the saddle on hind-part-before.

"Oh Professor," exclaimed one of the group, "you are putting the wrong end of your saddle foremost."

"Young man," replied the Professor with some tartness, "you are entirely too smart. How do you know it is wrong, when I have not yet told you in which direction I intend to go?"—March Lippincott's.

HIS FATHER WOULDN'T LIKE IT.

"Mister," said the little boy to the farmer leaning over the fence, "the mule has run away and split my load o' hay. Won't you come and help me put it on the wagon again?"

"I will," said the farmer, "if you will come over here fuss an' he'll me git my cows out o' the pastur'."

"Oh," said the little boy, "I'm afraid father wouldn't like that?"

"Why wouldn't he?" growled the farmer.

"Because," said the little boy, "he always taught me to look out for him first."

"Where is your father?" asked the farmer.

"Please, sir," said the little boy, "he's under the hay."—Silas Xavier Floyd, in March Lippincott's.

A COLORED HIBERNIAN.

"Private" John Allen says that an old darky preacher in Mississippi was recently approached by a deacon in the church, who desired to gain the reverend gentleman's consent to his daughter's marriage with him, the deacon.

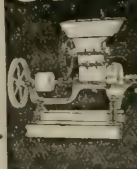
"I doan' know 'bout dis," said the preacher, dubiously. "You ain't sech a young man, deacon. I ain't shore dat you kin support mah chille!"

The deacon bridled. "Dere won't be no trouble 'bout dat, sah!" he asserted, warmly. "I kin support her all right!"

The minister reflected for a moment "Has you eber seen my Chloe eat?" he finally asked.

"I has, sah!" came from the suitor. "But, sah!" exclaimed the old preacher, impressively, "has you eber seen her eat when nobody was a-watchin' her?"—March Woman's Home Companion.

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Corn in the ear and all grains, any sort of chop mixture. For speedy and perfect work, saving feed and labor, the all-purpose grinding mill is the

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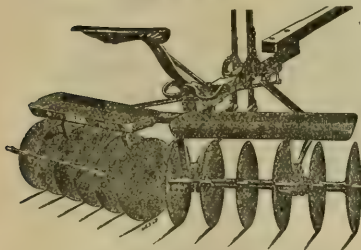
The two illustrations above show the results of spraying potatoes at the Vermont Experiment Station. The sprayed vines yielded at the rate of 291 bushels per acre, while the unsprayed vines yielded at the rate of 99½ bushels per acre, a difference of 191½ bushels per acre. Then surely it pays to spray potatoes and what is true of this crop is also true of other crops, especially fruits. Sprayed fruit yields more and sells better. Water supply and plumbing systems installed.

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OUR ROAD PLOWS will enter hard ground when no other will.

DISC HARROWS with or without solid steel weight boxes. Most durable bearing with oil reservoir directly over axle free from dust and clogging. Anti Friction Rollers. Adjustable Seats. Easy to handle. Light in draft.

ALL STEEL LEVER HARROWS made up of sections of 25 teeth each. Instantly adjusted straight or slanting by lever.

THE EMPIRE CORN PLANTER with or without fertilizer attachment. The Lightest Planter Made. Plants any quantity and distance accurately.

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WALKING AND RIDING CULTIVATORS with four, six or eight shovels and spring teeth.

FARM WAGONS built of air-dried timber and all material the best that can be procured.

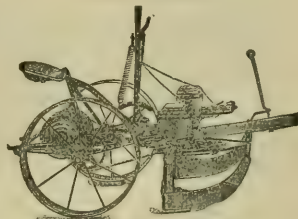
IRON AGE PATTERN CULTIVATORS and HARROWS, MALTA DOUBLE SHOVEL PLOWS.



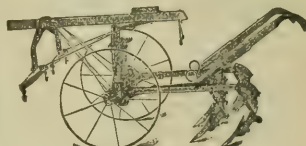
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Harper's Weekly	4 00	4 00
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Apples,	Nectarines,	Pecans,	Ornamental and
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AGENTS WANTED.

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TRAIN-LOAD OF MANURE SPREADERS—40 CARS.

On the last day of the old year, December 31st, 1903, there was made from the city of Syracuse, N. Y., the largest individual shipment ever made from that city, and the largest shipment of manure spreaders ever made in the world. It was a train load of 40 cars, 1,800 feet long, of "Success" Spreaders, the new machine of the Kemp & Burpee Mfg. Co., of Syracuse. The photograph from which the above half-tone was made was taken just west of Syracuse, when the train had got under way on its journey into the Great West. The train of 40 cars, containing 500 Spreaders, and moved by three engines, ran solid over the Lackawanna, Nickel Plate and St. Paul railroads to the Mississippi river, where it was divided, part going to the John Deere Plow Company, at Omaha, and the remainder to the Deere & Webber Co., at Minneapolis. The train was bannered from end to end, and ran only in the daytime. Great interest was manifested in the unique shipment all along the route. The value of the load was given as \$55,000; the freight bill was \$5,400. The Success Spreader is a distinct improvement in several particulars on the celebrated Kemp Spreader, manufactured by the same Company, and which has become a familiar sight on farms in nearly every section of the country. The shipment marks the limit of capacity of the enlarged Kemp & Burpee factories for fifteen days. The signal appreciation of the new Success Spreader, wherever its advantages are known, is shown by the fact that another shipment of like character to other western points is to be made the latter part of this month.

PASSIVE CHRISTIANITY.

"Little boy," inquired the minister, who had called to see the man of the house, "Is your father a Christian?" "Yes," replied the boy, "I think he is, but I don't believe he is working at it these days."—March Lippincott's.

"Crop Growing and Crop Feeding."

By PROF. W. F. MASSEY.
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We offer this splendid work in connection with the SOUTHERN PLANTER at the following prices:

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ONE MAN SAW

THE CHAMPION

ONE MAN SAW SAVES BACKACHE and doubles the output. ONE man can saw over ONE cord per hour. Height of operator furnishes bulk of power. Cuts any size timber, standing or down. Weighs 60 lbs. Fine steel blades; ash frame. Saves money—labor. Circular free.

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Best Timothy Hay, per hundred.....	90c.	Small Cans Tomatoes, per can.....	6c.
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Good Corn, per bushel.....	60c.	Old Crown Rye, per gallon.....	\$3.00
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Best Meal, 18c. peck; or, per bushel.....	70c.	Old Excelsior Rye, per gallon.....	2.00
Ship Stuff, \$24 per ton; or, per hundred.....	\$1.25	Old Capitol Rye, per gallon.....	1.50
Bran, \$23 ton; or, per hundred.....	1.20	Duffy's Malt Whiskey, per bottle.....	80c.
Pride of Richmond Flour, per barrel.....	5.75	Pure N. C. Corn Whiskey, per gallon.....	2.00
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Silver Leaf Lard, Pure, per pound.....	11c.		
New Cut Herrings, 3 dozen for.....	25c.		
Lake Fish, 2 dozen for.....	25c.		
Good Salt Pork, per pound.....	8c. and 9c.		
Large Cans Peaches, per can.....	12c.		
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We have a full line of Groceries, Wines, Liquors and Feed. If you don't see what you want, write for prices. Jugs, 10c. extra per gal. These prices are subject to market changes, and cash in advance before goods are shipped.

WHEN MANDY STARTS TO WASH.

When Mandy sets the b'ller on,
An' hustles up th' fire,
An' starts a-stirrin' up of starch
An' hists 'er sleeves up higher,
W'y, then you know th' war is on,
It ain't no time to josh,
Th' on'y thing to do is—*git*,
When Mandy starts to wash.

Cold beans an' bread an' coffee's all
I'll git to eat *that day*,
An' 'tain't no use to stay around
An' git in Mandy's way,
Fer then she'll set me hard at work
A-rinsin' out—kersplosh
Ye can't stay round th' house an' shirk
When Mandy starts to wash.

An' so I kinder hem around
'At my terbaccer's out,
Fer down at Job's (th' thorn-store)
Th' boys all set about
A-lookin' jest as sheepish-like
An' chawin' crackers—Gosh!
I ain't the on'y *shiftless* one
When Mandy starts to wash.

'Nen I go amblin' down th' road,
A-feelin' sneaky-like,
To jine in with th' other boys
'At's sorter out on strike;
A feller can't help feelin' mean
'S long 's he can't josh,
Th' on'y thing to do is—*git*,
When Mandy starts to wash.
Grace G. Bostwick, in March Lippincott's Magazine.

The strongest magazine novel of the month is by all odds that published in Lippincott's called "A Provident Woman." This is written by Neith Boyce, author of "The overrunner," and it opens in a New York business office at a critical time for Cecilia Clayber. Her beauty and undeviating calmness in all circumstances so compel the admiration of her employer, Frederick Hawley, widower and millionaire merchant, that he asks her to become his wife. His doctor has imparted to him the information that he may drop dead at any time, which news naturally shatters his nerves and makes him feel that Cecilia is a veritable rock on which to lean. She accepts her new role characteristically and they spend the honeymoon in Europe. There had been a budding love-affair between Cecilia and one of her mother's boarders, and when she returns to New York the erstwhile lover reappears under r other conditions and add zest to the tale.

The March number contains eight short stories, Baroness von Hutten has never been more charming than in her contribution entitled "According to Lady Moyle: About Jessica Win-nock." "Mrs. McOstrich Gives a Party," by J. J. Bell, equals in humor—and perhaps surpasses—anything which has yet been told about "Wee Macgregor."

Uncle Sam says it's all right

Uncle Sam, in the person of ten of his government officials, is always in charge of every department of our distillery. During the entire process of distillation, after the whiskey is stored in barrels in our warehouses, during the seven years it remains there, from the very grain we buy to the whiskey you get, Uncle Sam is constantly on the watch. We dare not take a gallon of our own whiskey from our own warehouse unless he says it's all right. And when he does say so, that whiskey goes direct to you, with all its original strength, richness and flavor, carrying a UNITED STATES REGISTERED DISTILLER'S GUARANTEE of PURITY and AGE, and saving the dealers' enormous profits. That's why HAYNER WHISKEY is the best for medicinal purposes. That's why it is preferred for other uses. That's why we have over a quarter of a million satisfied customers. That's why YOU should try it. Your money back if you're not satisfied.

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Saves Dealers' Profits! Prevents Adulteration!

HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

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NOT THE LIMIT.

Signor Zanetti, the magician, had been displaying his dexterity to an interested crowd of spectators in a Kentucky town. Stepping forward, he said:

"For my next trick I will require a small flask of whiskey. Will some gentleman in the audience accommodate me with the loan of a pint flask?"

No one stirred. The magician was plainly nonplussed. With an appealing gesture he said:

"I had received a different impression than this as to Kentucky customs. Perhaps you did not understand me? Will some gentleman kindly loan me a pint flask of whiskey?"

Again there was no response, and, briefly apologizing, the magician said he would be compelled to omit this from his repertory for that night. He was turning again to his table when a tall, lank man in the rear of the hall rose.

"Mistah," said he, "would a quart flask do as well?" producing a bottle of that capacity.

"Just as well, sir," replied Zanetti. And every gentleman in the house rose with that size flask extended.—H. I. Dobbins, in March Lippincott's.

GOT HIS SHARE.

Back in the seventies, when Dewey had command of a ship of the old Hartford type, he was lying in the harbor off Genoa. Visitors were allowed on board at all times except Sunday morning, at which time inspection took place. One Sunday a well-known American millionaire steamed out with a party of friends in his private yacht and succeeded in getting on deck, where he was met by Captain Dewey, who asked him to leave. Mr. Money remonstrated, and, finally, exasperated by the cool firmness of the officer, he burst out:

"No, sir, I won't leave. I am an American citizen, and have a perfect right on this vessel. I pay taxes in America; I am on my own property; part of this ship belongs to me!"

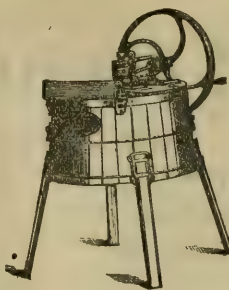
Calmly Dewey opened his pen-knife, stooped down, and snift off a piece of the deck flooring. Handing it to the incensed American citizen he replied,—

"There's about what you own, and there's the ladder—now *git!*"

And he got.—March Lippincott's.

"I suppose," said the condoling neighbor, "that you will erect a handsome monument to your husband's memory?"

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A Christian Scientist, a friend of Dr. Herbert W. Spencer, used to scoff at medicine. "You're convinced that you can do anything through faith," said Dr. Spencer. "Yes," he replied, "faith will remove mountains." A week later, with a swollen face and in great suffering from the toothache, he entered the doctor's office and asked for relief. "Have you tried faith?" said Dr. Spencer. "You know faith will remove mountains." "Oh, but this is a cavity, doctor, this is a cavity."

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A member of the Bar of Great Britain, with a pronounced Cockney accent, once appeared before Justice Lawrence, of the Criminal Court. In the course of his remarks the advocate, who was appearing for the prosecution in a case evolving the theft of a halter, constantly alluded to the article of equine equipment as an 'alter. Justice Lawrence, unable to stand it further, called before him the clerk of assize and asked, in perfectly serious tones, albeit with a certain twinkle of his eye:

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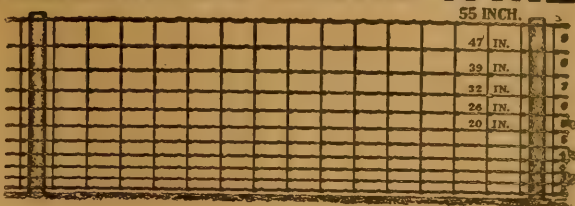
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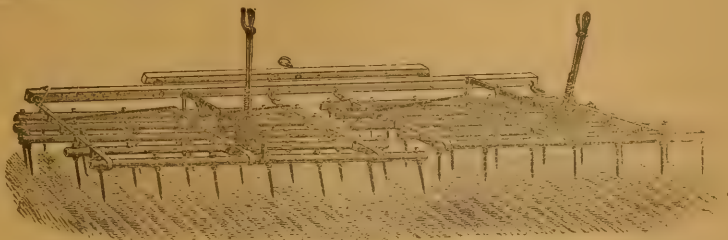
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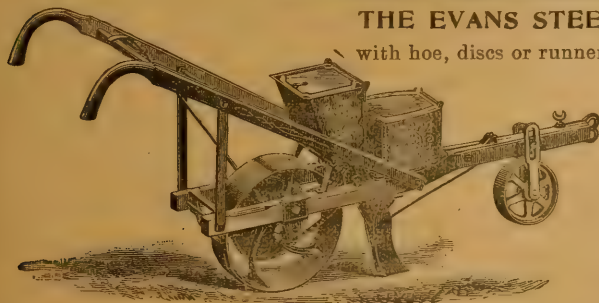
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APRIL, 1904.

No. 4.

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No. 4.

Farm Management.

WORK FOR THE MONTH.

The long, severe winter which we have had has at length broken, and we are having at last something like normal spring weather, though the winds are still cold and night frosts are not yet a thing of the past. The land is still very cold from the abnormal coolness of the weather for the past six months, and fall planted crops have not yet made much sign of growth. This, however, cannot long continue, as the sun is now acquiring much power and is exercising its beneficent influence over a twelve hour day. The absence of the normal rainfall which has continued for six months and even longer in many sections of the South, causes the land to be ill supplied with the necessary moisture required to perfect the growth of the summer crops, and unless we have good spring rains is going to exercise the good judgment of farmers in the matter of cultivation to conserve all the moisture possible during the summer months. Whilst this absence of moisture in the soil is fraught with danger to the subsequent growth of crops, yet at present it is a great help to farmers, as it will permit of the breaking of land, much of which work usually done in the late fall and winter months had to be left undone at that time in consequence of frost in the land. A few days ago we had a gentleman in the office from middle Virginia, who is the owner of a large farm, who stated that he had noted as a fact unparalleled in his observation in this State, that a piece of land with a northern exposure on his place had been hard

frozen from the second week in November to the second week in March. In the face of conditions like these but little of our usual winter work has been practicable, and now a late spring is going to crowd the work of preparing the seed bed for the crops into a very short space of time if they are to be planted at the best time for their success. We would urge upon every farmer the importance of not losing a moment of time in getting and keeping the teams at work. They have had a long rest and should be in good shape for working from sun up to sun down. Keep them to this schedule as long as weather permits. It is too late to turn more than a very little of the subsoil on to the surface, as it cannot receive the necessary aeration to make available the plant food in it, but it is not too late to use the subsoil plow after the turning plow and thus to make it possible for the roots to work their way downward and utilize the moisture which a deep soil will conserve as it falls on the land. In this issue will be found an article from Dr. Fisher, of Richmond county, Va., in which he describes how he made nearly 100 bushels of corn to the acre in an unfavorable season. In that article he lays great stress on the value of subsoiling, and incidentally explains the implement he used as a subsoiler and which is already in the hands of most farmers. Where this is not the case, and no subsoil plow is at hand, use a single tooth cultivator to break the subsoil. As the land is broken run a harrow over it the same day, if possible, and thus make a partial mulch to

conserve the moisture until time can be found to fit it for planting. Should dry weather continue it will be found of great service to run over land intended to be plowed and planted with a disc or cutaway harrow. This will prevent baking of the surface and keep the land in a condition to be plowed and worked much longer than if nothing is done. Almost every year we have complaints that some land gets too hard to plow before it can be reached. This hardness can be deferred to a much later period by the use of the disc, cutaway or even a heavy drag harrow. With the hot season so near upon us it will be necessary to avail ones self of every device which will permit of continuous working in the land if a normal acreage of crops is to be planted.

The seeding of the spring oat crop has been much delayed, and there are yet many farmers who have not got a seed sowed. To these we would say abandon the crop for this year except in the mountain sections of the western parts of this and the adjoining coast States. In the middle and coast sections much better returns can be got from the land in the way of feed for stock by planting forage crops after the corn crop has been planted than can be got from an oat crop seeded now and time will thus be got to break and fit land and plant corn, cotton, and tobacco crops in due season. Spring oats, except in the mountain sections of the South, are at best an uncertain crop, and it is folly to sacrifice time in seeding such a crop after March, when a crop like corn, which is practically a certainty, should be going into the ground.

The work of preparing the land for the corn crop should be that to which undivided attention should first be given. The most important thing in the work of growing corn is the fitting of the seed bed, and until this matter receives more attention at the hands of Southern farmers we shall never see such yields as our lands are capable of making. Every day we are in receipt of letters from farmers asking what fertilizer to use and what quantity to apply per acre to make a maximum crop of corn. We are of opinion, and this opinion is based on practical knowledge of growing crops, and on a close consideration of hundreds of experiments made in the different corn States, that not the quality or quantity of fertilizer used, but the degree of preparedness of the land planted is the basis of success in corn production. We doubt much whether without perfect preparation of the land before the crop is plant-

ed the use of any kind or quantity of fertilizer will have much influence on the yield produced. With good preparation we know that the application of a complete fertilizer will have some influence on the quantity produced, but in very few of the experiments made has it been found profitable to apply fertilizer to the corn crop. The increased yield secured has rarely paid for the fertilizer applied. There is, however, no reason whatever why a better yield than 20 bushels to the acre, which is about the average in this State, should not be made without the use of a pound of fertilizer directly on the crop. The land should be filled with vegetable matter (humus) derived from crops of peas, soy beans, vetches and crimson clover, and to secure heavy crops of these acid phosphate should be applied, and a dressing of lime be given after the crop or the stubble has been plowed down. When the land has been filled with vegetable matter it becomes capable of holding moisture, and will not bake or crust over, and then if plowed deeply in the fall or winter and worked into a fine mellow seed bed in the spring there is no reason why from 50 to 75 bushels, and even 100 bushels, of corn to the acre may not be produced without any further application of fertilizer. The heaviest corn crops have always been produced on deeply broken and finely worked soil, and not on the land where reliance has been placed solely on the fertilizer applied. What we would most strongly urge is that no effort be spared to secure a deep and finely broken seed bed before a grain of corn is planted, and that only land in at least a fair state of fertility be prepared for the crop. It is folly to plant corn on land so poor that it cannot at best be expected to make more than 10 to 15 bushels to the acre. There can be no profit in such farming. Select land that has been in sod, if no land which has grown peas is available, and on this sod put all the coarse farm yard manure that can be secured. Corn is a plant with a vigorous root system, and one capable of utilizing plant food in a much coarser form than many other crops. It forages widely for its support if only the soil be finely enough broken to allow the roots to penetrate it. Of course, in thus advising we have reference to the uplands of the South. On the river low grounds all that is needed is deep and perfect breaking of the soil. They are rich enough in plant food to supply the needs of a heavy crop. Do not endeavor to plant a larger area of crops than can have good and constant cultivation during growth. Better plant ten acres in a well prepared seed bed and give

it frequent cultivation during growth than twenty acres on a poorly fitted bed and only the ability to work it twice or three times during growth. The small area will make the most corn and make it at less cost. The depth to which the soil is broken will have a great bearing upon the distance apart of the corn rows and plants. No great yield of corn can by any possibility be made where the rows are four feet apart and the plants three feet apart in the row. There cannot be sufficient plants grown on an acre planted in this way to make a great yield, and yet this is the best that can be done if the roots of the plants cannot get down into the soil. Give them *cubic space* enough in which to forage—that is, *depth* as well as surface measure, and then you can easily double the number of stalks on the acre, and thus get the prime requisite for a big yield. Land that will not make corn planted in rows three feet six inches apart, and the plants eighteen inches apart in the rows, is not good enough to plant in corn with profit. Our climatic conditions are especially suited to the corn crop, and if we only do our duty to the land there is no reason whatever why the average yield should not be 50 bushels to the acre on upland and 100 bushels to the acre on the low grounds.

Whilst as we have said we have no great faith in the use of commercial fertilizer in the production of the corn crop, yet as we have so many enquiries on the subject, we feel compelled to say something as to what plant food the crop calls for, and how it may be supplied. A crop of 30 bushels of corn to the acre removes from the soil 40 pounds of nitrogen, 41 pounds of potash, and 13 pounds of phosphoric acid. This would seem to point to the necessity for using a fertilizer rich in nitrogen and potash, and yet the results of experiment go to show that many of the best crops have been raised without the use of heavy percentages of either of these foods. It is becoming more certain every year that corn is like the legumes, itself a nitrogen gathering crop, and that in some way not yet discovered it can secure nitrogen from the atmosphere. It makes its growth during the season of the year when nitrification is most active in the soil, and doubtless this fact enables it to dispense largely with any artificial supply. The power of the crop to forage for food enables it to secure potash from sources unavailable to other crops, if only there be a sufficient supply of phosphoric acid available. Indeed, an examination of the experiments made in the various States goes

to establish the fact that the amount of phosphoric acid supplied to the crop is the dominant factor in securing a good yield. We believe that the use of 300 to 500 pounds to the acre of acid phosphate is probably the fertilizer most likely to secure an increased yield of corn on average upland in the South, especially when applied on sod land or on land which has grown peas. On the thin, sandy lands of the eastern sections, cotton seed meal and some potash, say 50 pounds of muriate to the acre, ought also to be applied. Where more than 200 pounds to the acre of any fertilizer is applied we would advise it to be sown broadcast and be worked into the soil. If less than that quantity be used, and we very much doubt whether any appreciable benefit whatever can be derived from less, we would apply it in the drill and mix well with the soil before planting the seed.

In our last issue we gave some advice as to the planting and fertilizing of the cotton crop, and refer our readers to that number. The importance of deep and perfect breaking of the land for cotton is just as great as for the corn crop. In no other way can moisture be conserved for the crop, and the necessary plant food be secured from the soil.

The land intended to be planted in tobacco should be plowed and worked in the intervals between preparing for and planting the corn and cotton crops. Tobacco is a plant with a comparatively small root system, and hence the importance of perfect preparation of the soil so that the delicate rootlets can make their way through it and secure the food necessary to their growth. Analysis of tobacco plants grown in different sections of the South go to show a great variation in the content of the constituents of plant food, and therefore make it difficult to advise as to the quantity of each element to be applied. The fact seems to be that tobacco has the power to appropriate varying quantities of the three elements of plant food as they are found in the soil in accordance with its requirements on the particular soil on which it is grown. Major Ragland, one of the most experienced tobacco growers in the South, conducted a large series of experiments and found that he got the best results from the use of 160 pounds of dried blood to supply the nitrogen, 120 pounds of sulphate of potash to supply the potash, and 114 pounds of acid phosphate to supply the phosphoric acid to the acre. In the cotton sections, where light tobacco is grown, cotton seed meal is largely used to supply

the nitrogen, and apparently with good results. The exactions of light tobacco for nitrogen are not so great as the dark, heavy shipping types, and hence cotton seed meal meets the need of this type when used liberally. For the heavy types of tobacco, we think the formula used by Major Ragland, which gives a percentage of $4\frac{1}{2}$ of nitroge n, $15\frac{1}{2}$ of potash, and $3\frac{1}{2}$ of phosphoric acid, a most desirable one. Such high percentages of potash and nitrogen cannot be got in the usual mixed fertilizers, and must be home mixed. Where cotton seed meal is used as a source of nitrogen it will be well to use with it some nitrate of soda, as the nitrogen in the cotton seed meal is not immediately available, but requires time to decay, and then begins to supply the nitrogen slowly and continuously. With 800 pounds of cotton seed meal we would use 100 pounds of nitrate of soda. This will give the plants a good start. The most important element in a tobacco fertilizer is the potash, and this should be supplied by sulphate of potash only as any other form of potash salts injures the burning quality of the tobacco. The least important element is phosphoric acid. When used in excess this has the effect of making a coarse type of tobacco. Many old growers of tobacco say that they have never yet been able to get a mixture of tobacco fertilizer which would give such results as the old-time Peruvian guano gave. For years it has been impossible to get Peruvian guano, but this year it is again in the reach of those who would like to use it. Messrs. Mortimer & Co., of New York, are importing it, and it can be had from them and their agents.

Whilst it is yet early to plant forage crops, May being the best time, yet for those who are likely to require early feed for stock, we would suggest the fine preparation of a piece of land and the seeding of an acre or two of Cat tail millet (called *Pencilaria* in some of the catalogues). This grows quickly, and makes a heavy crop of good green forage to follow crimson clover and rye. Sow one bushel of seed to the acre broadcast and harrow in, and if the ground is dry enough, roll and then lightly reharrow to prevent caking of the surface soil.

DRAINING WITH POLES.

In our last issue we replied to a query on this subject. Noting this, Mr. Thomas, of Smithfield, Va., the curer of the celebrated "Smithfield Hams," writes us that they find in Eastern Virginia that pine poles make a good blind ditch, when properly

cut and laid. He says the poles should be straight and sawed with a cross-cut saw, and be put in the ground the same day they are cut, if possible. Use three poles, one on each side and one on top. They cover with pine straw, but wheat or oat straw will do as well, and then put in the soil. Put in this way the ditch is good for twenty or thirty years. Where the subsoil is a good clay, after the ditch has been opened to the clay they sometimes take a spade which has been narrowed by cutting off a piece on each side so as to make it V shaped, and with this dig out a trench in the clay at the bottom of the ditch, and then place one pine pole on the top of this trench as a cover and fill up the ditch with straw, and soil as above mentioned. This, he says, makes a very permanent and effective drain—where conditions are suitable.

VALUE OF LIME AS AN IMPROVER OF LAND.

Editor Southern Planter:

I have been reading in your valuable paper for several months many articles on the benefits to be derived from the use of lime on our Virginia soils and as I have been an extensive user of lime for some twelve or thirteen years I think it probable my experience may be of benefit to some of your many subscribers.

I have learned, after long experience, that vegetation is a force that must be brought about by the union of certain elements in the soil, and just as the soil lacks one or the other of these elements so will it lack the power to grow and develop abundant crops.

As the steam engine requires the two elements, fire and water, to generate the powerful force, steam, to create great energy, so does the soil require the two important elements, alkali and acid, for just as these are well balanced in the soil will it be either rich or poor.

My experience is that all the lands east of the Blue Ridge, from which a large portion of the potash has been exhausted by the continuous growth of tobacco, can be made to double their yield of wheat, oats and corn by a proper application of one ton of lime per acre.

On my red soil I find that after it has been treated as above stated from two to three years, I can make double the amount of wheat without the use of fertilizer, that I could before with from two to three hundred pounds per acre of acid phosphate.

Lime is slow to act but especially so if applied in

the spring. It should, to get the best and quickest results, be applied in the fall and always on lands that need not be turned for from two to four years. It is always best to seed your land to grass after liming. In my 12 years experience I have never once missed a stand of grass on land that had been limed.

My system of applying it is the one that has been practised in Pennsylvania for probably 50 years. After my field is plowed I take a single shovel plow and lay off the land 13 yards wide each way. This leaves it in squares of 13x13 yards. It will be found that 30 of these squares make an acre. If you will weigh a ton of lime, then measure it, you will find you will have 30 bushels. This is at least true with partially slaked lime such as I use.

When I begin hauling from the car I have two bushel boxes, one for each wagon. Each wagon takes a row of squares and in the middle of each square we put one bushel, until we have gone over the entire field. I let these piles lay exposed for from two to three weeks until it is all slaked, then just after a slight rain or early in the morning we commence spreading. Each pile will go over its square uniformly if the parties handling understand their work. In scattering lime it should never leave the shovel at the point but always at the side. It will then be found to fall on the ground evenly and instead of shoveling you will be sowing.

In land that is too rolling to lay off as above for fear of starting a wash, I use the same dimensions as above but instead of laying off with a plow I step it off and at each place where there should be a pile of lime I stick a tobacco stick. This, by being careful, will enable you to get it on the land fairly even.

After the lime is evenly spread over the field I commence harrowing. It is best if it can be done, to harrow both ways or cross your harrowing as much as possible, then I drill in my wheat and timothy seed together. In the spring I sow my clover seed and again harrow. After this I let it lay for from three to four years and I consider if my land was worth twenty dollars per acre before liming, at the end of the three or four years it will be worth \$40.

Sandy soil, in my experience, will improve quicker than red soil, and they both will show improvement quicker if they have either a coat of manure or green crop turned under before liming.

My lime costs me \$1.40 per ton laid down at my station, seventy miles from where it is burnt. I believe that this lime, if properly managed, could be laid down in car load-lots at any railroad station in Virginia for not to exceed \$2.50 per ton.

I have tried lime from four different parts of the State and I consider this the best I have struck. A proof of this will be found in the fact that I have purchased from them in the last two seasons about 175 tons. The day the East Virginia farmers adopt a system of liming, if it is not over ten acres each year, that will be the day their permanent prosperity will begin, and every man who will add anything to the speedy adoption of such a system will go down in the future history of the State as a benefactor to his country.

As I see from several of the inquiries in your paper that a large majority of farmers have no knowledge of the action of lime on soil or its great benefit I will give you the results on a 12-acre field limed 13 years ago, with 15 tons of lime. This land was perfectly exhausted. There would nothing grow on it but dewberry vines. I had only just bought the farm therefore had nothing else to turn under, so I turned these vines under and sowed the field to wheat and timothy. In the spring I sowed clover but failed to get a stand, but got a part stand of timothy and about four bushels of wheat per acre. In the fall I top-dressed the field with the above amount of lime. The following summer I cut about three-fourths of a ton of hay to the acre, after which I grazed it two more years then plowed it up for corn. The season was not a good one, as there was but little rain, but on my 12 $\frac{3}{4}$ acre field (drill measure) I got one hundred and twenty-six barrels of corn (680 bushels). Since that time I have cropped it with three crops and am running it in grass three years and I have never failed to get a good crop. It is now in clover and timothy and no man in Virginia has a nicer stand. In addition to the permanent improvement of the soil by the use of lime I find a very decided improvement in the feeding quality of the food raised on the land that has been limed. This will, I believe, be found to be one-third greater than that raised on land that has not been limed, especially will this prove true where you wish to lay on fat and make a rapid growth of bone.

My first few years experience in feeding cattle for beef in Eastern Virginia was a failure. I could feed all winter and not lay on as much fat as feeders in limestone countries could in two months. Since I have been liming I can feed to some profit. I find another decided advantage in its use and one every farmer in my section has observed. It will stop the land from slipping or washing. It seems to act on land as it acts in mortar, to hold it together. I have no axe to grind in this matter. I have no land to sell

nor have I any interest in the sale of lime. I would only like to see this county more prosperous.

Bedford Co., Va.

OTHO HULL.

NINETY-FIVE BUSHEL OF CORN TO THE ACRE.

Dr. Fisher, of Emmerton, (Richmond county, Va.,) who grew over 95 bushels of corn to the acre last year, sends the following particulars as to how he prepared and worked his land to secure this result. Before describing the method it may be well to give some history of the previous cropping of the land, as this in our opinion has a large bearing on the subject. Prior to 1901 the $3\frac{1}{2}$ acres on which he grew the crop, and which made 335 bushels of corn, had been producing peas, followed by crimson clover, the clover always grazed or cut off in the spring in time for tomatoes. All the land was limed about 1898. In 1901, after a crop of clover, the land was seeded to peas and corn, three pecks of peas and one peck of field corn, put in on the 25th June, with a disc drill. The corn grew from five to eight feet tall, heavily loaded with vines. This was cut when the corn ears were in the milk state. These ears were pulled off and hauled to the hogs when the crop had been drying about two days. Getting these ears off opened up and helped to dry the crop. It made 27 large two-horse wagon loads. The land was then seeded to crimson clover that was cut in the spring of 1902. The land was then put in tomatoes. The last working of these tomatoes was followed by seeding crimson clover. This clover was grazed all fall and winter and a cutting for hogs was made in May, 1903. Then followed the corn crop in question, the growing of which is thus described by the Doctor:

The yield of corn per acre in this locality is very small on an average and was particularly so last season. There is little or no really rich land in my immediate neighborhood. Our corn crops are generally shortened, and sometimes ruined by drouth. I cultivate very little land, but study to overcome the above troubles. I fallowed my land deep, with turning plow, *subsoiling* each furrow. I pulverized with the harrow and applied 300 pounds of 10 and 2 fertilizer per acre through a wheat drill. The corn rows were opened 3 feet 6 inches apart, with turning plow (a No. X Dixie) twice to each row and in the bottom of which was run the subsoiler. The corn was planted behind the subsoiler, in this loose bed. Used a planter run shallow, dropping about 14 inches apart. As soon as the corn was a few inches tall, a cultivator worked the middles, putting a little dirt, each time down in the furrow and around corn. Dur-

ing the dry weather a dust mulch was used after cultivator. I never found moisture to fail to come within one and one-half inches of the surface. By the last running of the cultivator the furrows were filled and the whole surface was perfectly level. I will say here that I feel convinced that my yield would have more than reached 100 bushels per acre, but for the fact that the drill clogged at times and there were many spaces left from 20 inches to 30 inches. These were replanted, but to no purpose, as the growing corn soon smothered out the replanted. The device I use for subsoiling is the best I have seen. It is not original with me, as I got the idea from Mr. Jos. Peirce, of Lancaster county. Take an iron frame cultivator and take off all the shanks except the hind one (on middle bar) and righthand one. Either take off the left wing or shut it up close to the middle. Mount the two shanks with long stout steel hoes two inches wide. Put gauge wheel in front of this machine, turned so as to run wheel well ahead. Now with the two hoes just opened enough to tear up the whole width of the furrow made by the turning plow, and one good horse hitched, you can do the work well. If the shanks are set right the hoes will draw down in the hardest soil; so that the driver will have to carry some weight in his hands to keep the depth uniform. The dust mulch can be made easily by taking two sled runners, the under side being boarded with thin boards, lap jointed. Put first board on behind and you get the laps made so as to make a thorough pulverizer. Now nail a strip one inch by one inch across these boards down the middle, slightly narrow the top edge (top when it is turned over to put bottom on). This keeps it straight after the horse. A boy can ride on it and drive. Width must be made to suit space between corn rows.

To bind corn shocks, get two stout poles about 7 or 8 feet long, tie one end of a rope to one one-third of its length from the end; do the other end of the rope and the other pole the same way. Have rope 8 to 10 feet long, according to size of shock. With this binder, the closer corn is set up at bottom of the shocks the better. One man to each pole, carry end in hands, place the loop of rope just above the ears, hold poles level with the line of tie, work corn together with ends of poles and pass them around, until the shock is perfectly tight. One man holds both poles, while other one ties the shock with the usual tarred cord. If corn is distributed equally around the saddle stalks it will stand up straight and turn water. This binder does not twist the shock like others.

The handiest and cheapest way I have found to get

corn to husker and shredder, or for that matter, to barn for any other method of handling it, is a low wheel cart for horse or oxen. Have no backing gear; but run axle back against the shock by hand. Have a long chain or rope with large hook in one end. Pass hook end around shock, then with the hook make fast in shape of a loop, back team well back to get close hitch, then let the chain or rope take the whole pull. By holding one wheel back when team starts, the shock will be pulled well upon the axle. After hitching on to one shock, chain or rope can remain fastened to team. This drops the whole shock straight. What made my good yield of corn this season, a bad one in this "Neck?" Plenty of nitrogenous vegetable matter, subsoiling, thorough cultivation and dust mulching during drouth.

A. C. FISHER, M. D.

SAVING COW PEA HAY.

Editor Southern Planter:

I have been a subscriber to the *PLANTER* for a number of years, always looking forward to its monthly appearance with much pleasure and feel that these few words of commendation but poorly express its real value to me. In following advice contained in the *PLANTER* as to the saving of crimson clover seed I saved enough in one season, 1903, to pay subscription price for many years to come. I saved enough seed off a very small piece of land to sow about twelve acres. I seeded eight or nine acres last year and have enough left to sow about three acres. Valuable aid has also been obtained in the saving of cow pea hay. I put mine in small stacks and leave in that condition until wanted for feed. Have over twenty stacks in the field now and they keep perfectly, only a very small portion of the hay on extreme outside is injured by weather. I don't think it pays to build houses just for putting up cow pea hay alone. Such a small percentage of the hay is damaged that it is hardly worth mentioning. I had some in the field all of the winter of 1902 and 1903 and I feel confident that the first two or three rains did all the damage received. I had a good many cocks to mould some near the ground. The weight is so great that the hay cannot cure properly near the ground. If I save any of this kind of hay this year I expect to continue following advice in the *PLANTER*, and after putting up the hay about four feet around the pole, to nail on a strip or two and finish stacking over the strips. I let my cow pea hay lay on the ground last year nearly two days before

raking. Hoping the year 1904 will bring greater prosperity than ever to the *SOUTHERN PLANTER* and that all of its readers also may be the recipients of our Heavenly Father's blessings.

Prince George Co., Va.

A. R. CARY.

COW PEAS FOR FERTILIZING PURPOSES.

IS IT ESSENTIAL IN ORDER TO OBTAIN BEST RESULTS THAT THEY THEMSELVES SHOULD BE FERTILIZED? AND, IF SO—WHY?

Editor Southern Planter.

I doubt if there is a single farmer throughout the entire South who is not sufficiently posted on cow peas as to know that they are in every sense of the term a "recuperative" crop, that land, where they are sown or planted, is enriched and the succeeding crop benefitted and increased thereby; but, knowing all this, there are many who seem to think that, as they themselves are a fertilizer crop and planted mainly for fertilizing purposes, it would be the height of folly to apply fertilizers to them. To illustrate: A farmer sows a piece of land down to peas and mows them for hay; or plants in drill, cultivates them, then in the fall turns the hogs in on them; in either case the land works loose, light, mellow and friable, it is more retentive of moisture than where peas were neither sown nor planted; as a perfectly natural result, the crop is increased thereby, and the farmer is satisfied. He knows but little, if anything, about their attracting nitrogen from the atmosphere, and no more as to their being greedy feeders of both potash and phosphoric acid; what he does know is that the land works easier and better and the crop grows more luxuriant and the final yield is larger where they were than where they were not. He is satisfied with this knowledge, and does not seek to enquire further; but goes on planting and sowing peas year after year. He notices though that the land instead of increasing in fertility and productiveness, is actually becoming poorer and the yields obtained therefrom most beautifully less year by year, and this in spite of the fact that a fertilizing crop has been planted each year strictly for fertilizing purposes. In extreme cases (and we have heard of quite a number of such) cow peas have followed cow peas so often on the same land that it finally became so denuded of its native supply of potash and phosphoric acid that it could not even grow a crop of cow peas. The same thing has happened with clover, and indeed, with each and all of the recuperative crops. When land gets in this condition, it is

termed "pea-sick," "clover-sick," etc. The remedy is obvious. Keep up the potash and phosphoric acid supply. These two manurial agents, when applied liberally, promote the most luxuriant and heaviest growth, and ensure the absorption of the greatest possible amount of nitrogen from the air. That is just what we plant them for, to fill the soil with humus—thereby making it loose and friable, warm-natured, free-growing, and retentive of moisture; and secondly, for the absorption of nitrogen. Of course, the more luxuriant the growth of vines and roots, the greater will be the quantity of nitrogen absorbed by them; and the more liberal the supply of the two above named substances present in any given soil, the more luxuriant the growth. If the soil be very poor, and potash and phosphoric acid sadly deficient, the growth of vines will be weak, puny and spindling, and the absorption of nitrogen by them must inevitably correspond with the growth of the recuperative crop, let said growth be little or much.

Where the growth is weak and feeble, but little, if any, nitrogen is absorbed; hence the object in planting a recuperative crop is completely and effectually frustrated; while, where peas are sown, and the use of the mineral fertilizers omitted, let the growth of vines be ever so luxuriant, the land is inevitably poorer than if they had never been planted thereon. While it is a fact that they enrich the soil by the amount of nitrogen absorbed by them from the atmosphere, it is also a fact that they actually impoverish the soil to the extent of 30 pounds of potash and 10 pounds of phosphoric acid for each ton of hay that is taken off the land.

In each and every instance where the cow pea is sown as a recuperative or fertilizing crop, in order to force it to do its very level best in the way of increasing fertility, a mixture of 300 pounds of acid phosphate and 100 pounds of muriate of potash should be applied per acre. Or, any of the "bone and potash" fertilizers, analyzing 8-4 or 8-6 may be used at rate of 400 or 500 pounds per acre. I would advise all of your readers to send for a pamphlet devoted exclusively to "The Cow Pea," which is sent free to all applicants, and can be obtained by addressing "Experiment Farm," Southern Pines, North Carolina.

G. H. TURNER.

Gomez, Miss.

SOME NOTES BY THE WAY.

Editor Southern Planter:

I enjoy reading the SOUTHERN PLANTER more than any of our exchanges, mainly I suppose because

it comes home to me more closely in my own experience and practice. You have gotten so many good things in the March number that I am going to bother you with a brief sketch of what particularly strikes me, and if I do not always agree with your correspondents it is simply that I wish to add more perhaps to the general value of their letters. Southern farmers should ponder deeply what Dr. Newman tells them about hog feeding, and especially about the value of a permanent pasture of Bermuda grass for them. I once visited a friend in South Carolina, and found him selling smoked hams and bacon by the wagon load. He said that the bacon cost him for its production the same that his cotton did per pound, and he was then getting 14 cents for the meat and six cents for the cotton.

In regard to shredding fodder I wish to suggest to farmers to try the shredder for getting out their cow peas from the mown hay for seed. Of course the peas intended for seed will be allowed to ripen more than for the best hay, but the shredded feed is still of value. By the way, I was attracted by a very pretty bale of pea vine hay in front of a feed store a few days ago. It was bright and green in color and well cured. The grower was by, and told me that he set up stakes in the field like peanut stakes and shocked the hay around them as fast as cut. Only this and nothing more, and it cured well. It was as bright and pretty as mine, and that is saying a great deal for me, for curing pea hay has been a fad with me for many years.

Your correspondent "N" on "Farming as a Business," advises liming before sowing peas. I would say, don't. Peas are the only legume that in my experience do not like an application of lime. Defer the lime till the peas have been grown, and you will get a heavier growth of the peas. Then, as you say, plowing under green peas is not the way to help the land, but rather to injure it by souring. Then, too, the peas should be allowed to do all they can for you before using them as manure, and the greater part of their nitrogen fixing is done in the latter part of their growth. The hairy vetch is all right. I have had it three feet high here in February, in a mild winter, and this hard winter it is ten inches high the first week in March. Not pastured of course.

Prof. Nourse on hay substitutes reminds me of a letter I lately got from a Tennessee man, who is wintering 30 young cattle. He had been feeding hay, cotton seed meal and cotton seed hulls. But he said that the hulls got so high priced that he changed his feed to two-thirds gum and oak sawdust and one-third

hulls, and the cattle ate it. He wants to know the feeding value of the sawdust. I suggested that he try the cattle with some of it without any meal mixed with it and see if they would eat it. But what a comment on stock feeding in the South! I doubt if there is really much difference between the feeding value of the sawdust and the hulls, and I do not believe that cattle which have been accustomed to good pea vine hay and corn stover will eat either till compelled to, and the idea of a farmer in a country where peas will grow in perfection buying cotton seed hulls for his cattle argues little for his farming.

Mr. Taliaferro, who complains of his barren figs had better dig them up and plant known varieties. His are probably seedlings from the Smyrna fig, and these will not bear here unless we had the wild Caprifig and its insect. I once grew several hundred fig trees from seed washed out of the finest dried figs I could find. They made a fine growth, and set the nascent figs. But they all dropped off and never a fig was produced. If your correspondent will send to the P. J. Berckmans Co., Augusta, Ga., and get plants of the "Celestial" he will have the most hardy fig I have tried—and I have had nearly 100 varieties—and will have one that he can eat out of hand, skin and all, though not so large as the Brunswick. I received cuttings of a number of new figs from the Department of Agriculture last spring. They were said to be very hardy. All grew, but all have been cut by the winter, while my Brunswick and Celestials are little hurt. In regard to Ginseng, I think that the only money that will be made for a good while out of it will be by those who are growing plants to sell to the people they have infected with the ginseng fever. Some good roots may be grown in the higher mountain country of Virginia and North Carolina, but the people who plant in the eastern sections will hardly get anything out of it.

"Yes, Johnson grass will grow in Amherst county, Va." There is no doubt of this, and the man who first introduces it there will be ever remembered in that country as Jefferson is for the introduction of the Scotch broom in Virginia. With all of its admitted value as forage, the plant is such a pestiferous weed that any neighborhood now clear of it should use every effort to keep clear of it. We know all about the pest here, and have to fight it continually, even in our gardens.

Keep on warning the farmers against the crossing of pure breeds of animals. As an old friend of mine says, "it gives them too many relations, and

they do not know which to take after." Better keep close in line of one breed and one family in that breed and reduce the number of relations.

We hope that there is not going to be a revival of the old fad about *Polygonum Sachalinense*. It is doubtless hardy and will make a tremendous growth, but I would as soon try the sawdust feed. We have grown it here and abandoned it long ago.

W. F. MASSEY,

Editor of Practical Farmer.

Raleigh, N. C., March 9, 1904.

We thank our old friend for his compliment to the PLANTER. When one with his experience of the wants of the farmers of the South says so much in commendation of our work we think we may feel satisfied that we are doing something worth doing to help forward the South.—Ed.

FARMING AS A BUSINESS.

Editor Southern Planter:

I wonder if "N," of Hanover county, who writes about farming under the above caption in your March number, ever tried the method he recommends?

He seems to start with the notion that Virginia land is "only a place for a farm," and that the new owner must put the farm there. Now the fact is that there are no "worn out" lands. There are lands in Virginia and elsewhere that never had anything to wear out, deep sands that are not even "a place for a farm." But the loamy soils with a good clay foundation are never worn out. Scratch plowing and poor cultivation may have rendered them very unproductive, but it is perfectly possible to restore them from their own resources. Nature will do this with broom-sedge and pine trees if we let her alone. But we can find in commercial fertilizers, intelligently used, a ready means for aiding our efforts in better plowing and tillage.

A millionaire might adopt the mode of improvement suggested by "N," but men who buy farms to make a living on them are seldom millionaires. There are few places where lime can be had for \$2 a ton. In most sections away from the limestone regions it will cost on the farm double that or more. Then "N" advises all of this work and waste of food crops without any return in meantime. He estimates the cost of four crops plowed under at the mere cost of seed and labor, when in fact these crops had a high feeding value which is entirely lost in using them as

manure direct. Four crops of legumes, fertilized as he directs should make at a very low estimate four tons of good hay, well worth for feeding on the place \$10 per ton. If thus used, the farmer could get some profit from the feeding and could return fully 80 per cent. of the manurial value to the land. Instead of waiting till he has buried a high priced farm on the poor one before getting stock, he should have stock to eat all the roughage as fast as he produces it, and thus make the farm pay its way. The way we figure on "N's" plan, the farmer will have to spend fully \$100 an acre to make his farm in addition to what he pays for "a place for a farm," and he had better buy the \$100 an acre rich land at once. The great inducement for men to buy and develop the productiveness of the run down lands of the South is the fact that by wise management these lands can be made to pay for their improvement as they are built up. They became unproductive through a long course of bad treatment and they are not going to be suddenly made as fertile as they once were, by any immediate vast expenditure in green manuring. The man who puts lime on poor land destitute of humus, with the notion of aiding the growth of cow peas, will find that lime does not help them, as it does other legumes. He must get the peas first by the aid of acid phosphate and potash if on a sandy loam, or acid phosphate alone on a clay loam. He will find too that the pulverized rock will give very little return at once on the peas, and that for immediate results he had better use the dissolved rock. Thus having got a good growth of peas he will be very unwise to turn them under green, for he will run the risk of damaging his land more than helping it, and will have cut short the work the peas would do for him, as the larger part of their nitrogen gathering is done in the later stages of their growth. Then, too, the burying of a large growth is a poor preparation for fall grain, which needs a well compacted soil.

In short, our worn lands have still a great resource of fertility to be brought out by good plowing and tillage and are really undeveloped farms and not mere "places for farms" and properly treated they can be made to pay for their improvement as they develop and do not need the expenditure of a high priced farm on them before giving profitable returns.

"VIRGINIAN."

IMPROVED MACHINERY VS. COMMON LABOR.

Editor Southern Planter:

In this era of prosperity, with every business in full blast, and labor so restless and dissatisfied all

over the country and wages constantly increasing, the farmers of this section of North Carolina seem to be suffering more from the need of reliable labor than any other industry. It is a certainty that they cannot pay wages equal to our factories and railroads and make a living and have anything left. When a man puts in his time on the farm he should expect the same returns that he would from any other business. What the farmer wants is to get the most work done in the shortest time and at the smallest cost. By the use of improved farm machinery these requirements can be pretty well accomplished and farmers will be independent of so much sorry help that they are now compelled to put up with. Southern farmers are slow to realize the advantages and profits derived from the use of machinery, and it is costing them thousands of dollars in wages every year to say nothing of the endless amount of trouble and worry. The Western States learned that they could not farm without machinery and have profited by it. They could not raise wheat and corn to any extent without improved machinery and to do so the cost would be too great. There is no reason why machinery will not prove as profitable and practical on the farms of the South as it has in the West. With machinery one man can do more work and do it better than by the old method. With one team he covers twice as many acres and sometimes more and is able to cultivate the same crop oftener and this is essential in good farming. Money spent for sulky plows and cultivators, disk harrows, weeders, seeders and hay machinery will prove a profitable investment if they are properly worked. They do good work and a great deal quicker, which is important for work done when needed is the work that pays most. I have seen crops badly damaged for want of cultivation because the farmer could not get to them sooner. Last year we had several acres in hay and had to buy a mowing machine before we could save it. It cost about 50 per cent. less to cut it with the machine than by hand. With this machine you can save from eight to ten acres per day and run less risk of losing your crop from bad weather alone, which in some cases would amount to more than enough to pay for the machine. Some of the peanut growers near here had to buy a peanut picker last year before they could get their crop marketed. The picker gives satisfaction and they have the pleasure of knowing that they can get the work done any day necessary. They thrash the vines to pieces, but that does not ruin them for feeding. All the dirt and dust is cleaned off which otherwise the stock would eat. Farmers should provide

themselves with every labor saving device possible and do more and better work. It is impossible for every farmer to buy these implements, but they could all buy more if they would. There is not a farmer who has a farm of any size who could not get one or two of these implements each year if they would only try. Most of the manufacturers offer their tools on easy terms which is to the farmers' advantage. By the use of modern machinery and up-to-date methods and businesslike ways we will see better farms better cultivation and more production to the acre and the result will be more money in the farmers' pockets. The old way of farming is a thing of the past and those who expect to succeed may just as well break off from these ways and get to hustling or they will have to go "way back and sit down." They cannot compete with those who adopt modern farm implements and methods. Much of the common labor is expensive at any price. You can well afford to keep a good man at a good price when you can get a lot of work done in a short time.

Brunswick Co., N. C. JAMES W. MURRELL.

SACCHALINE.

Editor Southern Planter:

I notice in last issue answer to inquiry relative to sacchaline.

My experience with it is that it is of no value whatever unless as a soil renovator, and then only after years of growth. In the first place it requires rich land to make satisfactory growth, say around old neglected manure piles, or where its twin sister the dock will thrive. It is not in any way related to buckwheat. It is distinctly an overgrown dock and not as readily eaten by cows or horses. It grows about five or six feet in height, and spreads rapidly from the root but not badly from seed, so there is not any serious danger as a noxious weed. My experience was derived from imported roots and imported seed. In conclusion, I should not advise any one to invest in more than one root or the least possible amount of seed.

W. H. RICE.

Fairfax Co., Va.

NOTES.

A ton of stable manure contains about 10 pounds of nitrogen, a ton of green pea vines about 5 pounds, but a ton of green alfalfa contains nearly 15 pounds of nitrogen. From 20 to 25 tons of green alfalfa from one acre per year in four cuttings is not an ex-

traordinary crop and is worth nearly \$50 as a fertilizer or from \$60 to \$70 for feeding. If this alfalfa is fed, the droppings of the cattle are worth about \$50 less cost of hauling. In addition, the alfalfa stores every year an immense amount of nitrogen in the ground through its deep root system. By the way, how many acres of alfalfa are you going to save this fall? The work should begin now. Order your lime and your ground rock phosphate.

Disking the land before plowing is as beneficial as disking after plowing, but the best results are obtaining by disking before and after plowing. If you haven't tried it you will be surprised at the results.

An inquirer in your last issue asked confirmation of his belief that living in the country is cheaper than in the city. It is, if he is willing to do without city comforts, wear cheaper clothes, eat plainer food, etc. If his time is worth anything, however, paying water rent is cheaper than "toting" water several times every day from the well or spring to the kitchen. Coal delivered at your city-residence may even be as cheap as spending your time in cutting and hauling wood. Walking is cheaper than riding on the street cars if you can't make profitable use of your time. N.

SWEET POTATO CULTURE.

Editor Southern Planter:

The sweet potato is "par excellence," the root crop of the Southern States, because it is suited to climatic and soil conditions as found in these States. It is also one of the most profitable and satisfactory crops that the Southern farmer can make either for market or home use, and I only state what is a well known fact, that there is not another crop so universally grown as this crop, because it can be found on the least piece of cleared land, where the foundation of the future farm is being laid, to the large fields of the old plantations where they count their acres by the thousands. At this time every year a great many inquiries come to hand from parties newly moved into the Southern States, particularly the Gulf States, as to the best methods of getting a satisfactory and profitable yield from this crop, for it appears to be a well recognized fact that to the newcomer, this is one of the crops that he can hardly fail in making something from. To such inquiries I would say first of all, see that your land is well broken and put in good tilth. If the land is old, plow as deep as your soil will allow you, and a little deeper, if new land is being used don't plow deeper than your top soil, but pulverize thoroughly what you do plow so as to make a thoroughly mellow bed for the

young potatoes to grow in. On our tough wire grass sod of the long loaf pine lands, it is not advisable to cut a large furrow slice and a very small plow of the one horse type is recommended to make a beginning with, because a large slice will take a long time in decaying and getting incorporated with the other soil. What I specially recommend, and have been practising personally for a number of years on this kind of land is a very narrow scooter, say about two inches wide, cutting and cross-cutting the land at the very first and going about six inches deep. This method of breaking new land, mixes it all up thoroughly and goes deep enough to do a little subsoiling at the same time. This followed with the turning plow a few inches deep and again with harrow and cultivator makes an excellent job on our stubborn wire grass sods. After the plowing, either old land or new, should be treated to a good application of high grade fertilizer. The claim is often made that new land does not require fertilizing. Perhaps this is so, in a certain sense, but the farmer who takes the fertility from his soil that nature put there for a crop, without adding some more to it to make that crop is a soil-robber and the results will come back on him in after years. It is a well recognized fact among all our best agriculturists, that every crop grown on the farm must be provided with the necessary plant food for that crop in the form of the proper fertilizers for same. The fertilizer for sweet potatoes should contain a liberal amount of phosphoric acid and potash. The nitrogen is not so imperative as in most of our soils, enough nitrogen is already present. An excess of nitrogen will promote the growth of the vine at the expense of the root production, and it is root we are after. In buying a fertilizer already made up as we find it on the market, the analysis of the same should be about six per cent. potash and five or six phosphoric acid, from five hundred pounds per acre up to a thousand pounds can with safety be applied broadcast and worked well in to the soil some time before the draws are ready to plant. A low broad bed is best to grow the crop in, plot culture during our rainy seasons of July and August tends to lessen the crop. I have tried both ways and found the bed system by far the most satisfactory. And the nature of the crop with its excessive vine production is against any system that requires after cultivation when the crop is once planted. The beds should be four feet apart and nicely rounded out on top. There is no crop made on the farm where keeping qualities are so essential as the sweet potato crop, for it is expected to keep all winter and well on in spring and to have these keeping qualities it must be well grown and as perfect in its nature as it is possible to make it; to get this quality in it, is the mission or object of the potash in the fertilizer.

When the first of the crop is planted we have to use draws or slips, but when once the vines begin running, we had better use cuttings, for it is a fact that vine cuttings make a better crop than slips. The tendency lately has been in favor of a vineless variety of sweet potatoes, or at least a bunch vine. There are now several of these that have given very great satisfaction, the best of which is the Jersey bunch vine, because it is early, thrifty, a good yielder and a long keeper, all of which qualities combined make it a very desirable variety to have.

V. K. MCQUARRIE.

A crop of 185 bushels of sweet potatoes per acre will in its vines and roots remove from the soil 57 pounds of nitrogen, 16 pounds of phosphoric acid and 108 pounds of potash. These amounts of plant food can be supplied by 360 pounds of nitrate of soda or 800 pounds of cotton seed meal for the nitrogen, 138 pounds of acid phosphate for the phosphoric acid and 310 pounds muriate of potash or 790 pounds of kainit for the potash. If the vines are left on the ground then these quantities may be reduced to 124 pounds of nitrate of soda or 324 pounds of cotton seed meal, 86 pounds of acid phosphate and 97 pounds of muriate of potash or 367 pounds of kainit.—ED.

Broomsedge—Japan Clover.

We are being overrun in Southwest Virginia with broom sedge and would like to hear from some farmers in Eastern Virginia as to what they do with it? Does Japan clover whip it out? Do stock like Japan clover? Will it stand the winter? My crop sown last spring seems dead now.

R. H. P.

Montgomery Co., Va.

The only way the Eastern Virginia farmer gets rid of broomsedge is to plow it up and cultivate the land and then reseed in grass. Unless all his neighbors do the same he will soon have another crop as the seed flies from farm to farm. Japan clover will not kill it out but will make a better pasture of the field and thus ensure its being kept down by grazing and the seed be prevented from forming and reseeding land. Japan clover is an annual plant reseeding itself every year. As soon as the mild weather comes in spring your clover will spring up again.—ED.

Seed Corn.

Is corn two years old safe to use for seed?

Fauquier Co., Va

A. C. GOCHNAUER.

Yes, unless the weevil or some other worm has eaten out the germ of the seed.—ED.

ENQUIRER'S COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Root Grafted Trees.

As I have had proprietors of different nurseries and their agents make great claims about their trees being grown on whole or part roots, and as it seems to me that the root is the most essential part of a fruit tree, I would like to have the following questions answered through your valuable paper:

1. Is there any preference to be given a whole root tree over a part root?
2. Is a whole root tree likely to live longer and grow better than a part root?
3. If you could buy a part root tree from 10 to 15 cents cheaper per tree than the whole root which would you give the preference?

I have read very many discussions in the different lines of fruit growing but I have never come across these very important points.

Surry Co., Va. CHARLES G. DEISSNER.

In the opinion of the leading nurserymen and orchardists there is no difference in the life of trees grafted on whole or part roots. Practically it is almost impossible to get the whole root of a tree to insert the graft in. Some part is almost necessarily left in the ground. What is essential is that there should be sufficient of the root to insert the graft in to ensure that it receive sufficient food through the rootlets which may be put out to support healthy vigorous growth. If the tree offered for less money on account of being on a part root appeared to have made a vigorous healthy growth we would take it in preference to one on a whole root.—Ed.

Castor Beans—Creamery.

1. Can you inform me about the castor oil plant, where seed can be had, what profits in the bean, etc.?
2. Would you give directions for a creamery, cost and profits?

Northumberland Co., Va.

SUBSCRIBER.

1. Castor beans are only grown in a limited section of country in the Southwestern States, mainly in Oklahoma, Kansas and Mississippi. We suppose seed could be had from seedsmen in those States, but probably the easiest way to get it would be to write the Department of Agriculture, Washington, asking for the name and address of some seedsmen who is known to handle it. We cannot say anything definite as to the crop. We believe the average yield is from 8 to 10 bushels to the acre, but know nothing

of the profit on production nor where there is a market for the seed.

2. Write some of the Dairy supply houses advertising in our columns for estimate of cost of building and fitting up a creamery to handle the milk of a certain number of cows. They will give same much more definitely than we can do.—Ed.

Corn Fertilizer.

Will you be so kind as to give me, through the PLANTER, your valued opinion of the following mixture as a corn fertilizer: 1,000 pounds of phosphate, 450 pounds kainit and 550 pounds hen house manure, the manure to be sieved and gotten fine. What would be the analysis of such a mixture?

Dinwiddie Co., Va. T. B. SCOTT.

The mixture would analyze 6 per cent. phosphoric acid, $2\frac{1}{2}$ per cent. potash and $\frac{1}{4}$ per cent. nitrogen. To make a corn fertilizer for use on light land it should have the phosphoric acid increased by adding 400 pounds more acid phosphate, and the potash and nitrogen be increased by adding 500 pounds of cotton seed meal, tankage or fish scrap.—Ed.

The Use of Fertilizer—Preparing Land for Cotton, Corn, Etc.—Improving Land.

1. Is fertilizer worth anything as a soil improver? It is said that fertilizer makes land poor.
2. Can land be made rich with commercial fertilizer alone?
3. How to plow and when to plow gray sandy land for the best results for cotton, corn and oats for next season?

4. How to make gray sandy land rich? The land now will make from 6 to 8 hundred pounds of seed cotton to the acre. ONE OF YOUR SUBSCRIBERS.

Halifax Co., N. C.

1 & 2. The three elements nitrogen, phosphoric acid and potash are valuable as plant food and are absolutely essential in the growth of crops, but for the mixed fertilizer goods as offered on the market by the fertilizer makers we have little use as they are rarely worth what is charged for them and very often little fitted to the condition of the land or the crop on which they are applied. The judicious use of these elements in the proportions called for by the particular crop to be grown, and according to the requirement of the land, as ascertained by experiments made on it, will result in conjunction with good plowing and cultivation and the restoration of vegetable matter to the soil in making land rich and productive, but their use alone will never do this.

3. All land should be plowed in the fall and win-

ter months to get best results. Plow as far as possible in the fall, and sow a winter growing crop, clover or vetch, or both, to be turned down in spring before planting the summer crop.

4. Grow cow peas on the land in summer with 300 pounds of acid phosphate and 50 pounds of muriate of potash applied to the acre. Cut off this crop for hay in September and sow 10 pounds of crimson clover, 10 pounds of hairy vetch and half a bushel of wheat, oats and rye mixed on the land. Plow this crop down in May and plant corn or cotton and you will find the yield will be greatly increased. Sow cow peas in the corn crop at the last working and crimson clover in the cotton crop in August to cover the land during the winter. Treated in this way the land will constantly improve.—Ed.

Crops for Hogs.

I raise hogs for the market and grow crimson clover, red clover, dwarf essex rape, cow peas, soja beans and corn for them, allowing them to hog these crops down so as to leave all waste on the land. I also raise buckwheat for them, but I cut and feed this. Any information you can give me about raising and feeding hogs will be thankfully received, or about any crop that I can add to these. I have thought of planting artichokes but was afraid if they got a start in the land I could not get them out. Would you advise planting them, or can I kill them if I do plant them? J. R. ROBINSON.

Washington Co., Va.

You are raising about all the crops (except artichokes) which we advise for hogs. You should raise artichokes for winter feed. You need not fear being unable to get rid of them whenever you want to do so. They are easily killed out by plowing the land in the winter and growing a pea or other smothering crop in summer.—Ed.

Cow Peas.

Are cow peas good to fatten hogs and what time should they be planted to enable one to turn hogs on by September 15th? Any information on the subject of pea culture will be gladly received. D.

Pulaski Co., Va.

No better crop can be grown for hogs. Sow broadcast in May or June one bushel to the acre or drill in half that quantity per acre.—Ed.

Hurdles for Temporary Fence.

Will Mr. Chas. L. Dewey, of Mississippi, please give plans for panels or hurdles for movable fences? I have tested his methods of feeding green food and know they are practical.

I should like if he will kindly tell more about rice polish, where and the lowest price it may be bought. IGNORAMUS.

Grass for Wet Land—Worms and Bots in Horses.

1. What kind of grass will do the best in a low wet pasture that is under water the most of the winter and dry in summer?

2. What remedy is the best to remove worms and bots from a horse? A SUBSCRIBER.

Accomac Co., Va.

No grass is likely to do well on such land. Herds grass (red top) will grow best on wet land but even it refuses to stand drowning all winter.

2. In our last issue we wrote fully on the subject of worms and bots. See that issue.—Ed.

Fertilizer for Grass.

Please give in your next issue a formula for the best fertilizer to use on grass. I have two plots, one on medium low land, permanent pasture, the other clover, timothy, etc., both two years' growth, land needs feeding. Would it be well to use a light dressing of lime on either or both before any other?

AN INTERESTED READER.

Apply as a top dressing 250 pounds of bone meal and 100 pounds of nitrate of soda to the acre. Apply at once. In the fall apply 25 bushels of lime to the acre.—Ed.

Velvet Bean—Milk From Cow.

1. Is the velvet bean equal in value for a forage crop and the improvement of land to the cow pea? When and what quantity per acre should be planted? Can they be fed to all kinds of stock? What time is required for this crop to mature?

2. Will a cow give as much milk when one or two teats are spoiled as she did previous to the injury?

Washington Co., Va.

E. M. BALL.

1. In sections where the velvet bean will grow freely it is more valuable than the cow pea as an improver of land, as it produces a much greater crop of vines and the nitrogen gathered and stored on the roots is much more. As a forage crop, however, it is not so valuable, as its enormous growth makes it practically impossible to handle it either as green fed or as hay. The bean is a semi-tropical plant and will not mature its seed north of South Carolina and therefore it is of no use to plant it in Virginia or North Carolina except for improving land. It makes an enormous growth of vines in this State, so much so as to render it almost impracticable as a forage or hay crop. Planted in May, 1½ pecks to the acre, it will continue to grow until frost kills it with

the beans immature. In the far Southern States the beans are fully ripened and make a meal rich in protein which is used for stock feeding to some extent though even there the main use of the crop is as a land improver. It is allowed to die down on the land and is then plowed under and this is the best use to make of it here.

2. No, the cow will never give as large a yield of milk from two teats as from four.—Ed.

Rotation of Crops.

How would the following three years rotation succeed on our fair lands, producing say four barrels of corn per acre?

1st year. Crimson clover, mowed for hay, corn.

2nd year. Peas, picked for seed and mowed for hay, seeded to wheat.

3rd year. Wheat, seeded to crimson clover.

To what crops, what kinds, and in what quantities should artificial fertilizers be used?

Would the frequent cultivation necessitated by this rotation cause our hilly lands to wash?

What crop, or crops, would you advise seeding in the corn at the last cultivation? Have never succeeded in getting a stand of crimson clover in growing corn.

What would be the effect, on the land, if this rotation was continued for a number of years?

State the improvements you would make on the above rotation.

Would a four years' rotation be better than this? If so, kindly state the order and management of the crops you would advise cultivating.

King George Co., Va.

T. T. ARNOLD.

The primary object of a system of rotation of crops is at least the maintenance of the fertility of the land and the production of profitable crops, but on such land as that described in the above question it ought to go much further than this. Land which only produces 20 bushels of corn to the acre requires not only to have its existing fertility (if fertile it may be called making only such a poor yield) maintained but greatly added to. Such a rotation as that suggested would not have the effect of maintaining fertility, much less enhancing it. The recuperative crops, peas and crimson clover, are both removed from the land and only the stubble and roots left to maintain fertility. Whilst it is true that there is considerable plant food stored in the roots and the stubble, yet it is not sufficient to provide for the draft upon the land of a wheat crop, even though the same be aided by some commercial fertilizer. Nothing is said as to returning to the soil the manure to be made from the feeding of the crimson clover and peas to

stock, but we assume that this is intended, but even with this addition there will probably be depletion rather than addition of fertility, as the wheat crop would call for more plant food than would be stored in the soil to make a profitable crop. The rotation suggested is much too short for land of this character. A short rotation is only wisely followed on land in a high state of fertility. The constant cultivation of land renders the plant food rapidly available and capable of quick exhaustion, and therefore it must be in abundance or the last state of the land will be worse than the first. This short system of rotation is largely responsible for the wasted condition of much of the land in this country. Corn, wheat and tobacco or cotton have been grown in succession until all available plant food has been used up. Land of the character described should never be run in a rotation of less than five years, and six would be better. To suppose that the growing of crimson clover and peas and the removal of both crops will benefit such land as described is to mistake the true character of these crops and the needs of wasted land. Both crops, whilst recuperative in nitrogen, are great exhausters of phosphoric acid and potash, and unless these elements are supplied, become robber crops instead of recuperative ones. They so unbalance the plant food in the soil as to make it practically unproductive. What land of this character most needs to make it fertile is vegetable matter (humus) and deep plowing and perfect cultivation. This can only be supplied by turning at least one of the crops into the soil each year and top dressing the surface with the manure made by the feeding of the other. Given this addition to the humus content of the soil, and the time necessary for it to produce a sod to be also turned under, the land will improve and profitable crops be produced. We would suggest such a rotation as the following one with the fertilizer named as being one suitable

1st year. Plow and subsoil the land in the winter and sow cow peas in May with the application of 300 pounds of acid phosphate to the acre. This crop to be turned under in September (peas may be picked if desired) and the land then to have an application of 20 bushels of lime to the acre and be seeded in crimson clover, 15 pounds to the acre, with half a bushel of wheat, winter oats and rye mixed.

2nd year. Plow down the crimson clover and grain crop and plant in corn. Sow cow peas in corn at last working, and in August sow 20 pounds of crimson clover on the peas and let the peas die down on the land (picking the peas if desired). Shaded in

this way we think you will get a stand of crimson clover.

3rd year. Plow down the crimson clover and peas in June and plow deeply and work repeatedly in July and August to kill out all weeds, as they germinate. In August apply 200 pounds of acid phosphate and 150 pounds of ground bone to the acre and work into the soil, rolling to secure a firm bed with a fine surface, and seed with grass and clover.

4th year Mow clover and grass once and pasture lightly.

5th year. Pasture until September and then plow and seed to wheat with 300 pounds of acid phosphate and 150 pounds of bone meal to the acre.

6th year. Follow the wheat with cow peas sown immediately after harvest and cut for hay in September and then plow and seed with crimson clover, wheat, oats and rye.

7th year. Plow down the crimson clover and plant corn and repeat the rotation.

The manure made from the feeding of all crops grown on the land should be applied each year to the thinnest part of the land.—Ed.

Breachy Cow.

Please state in PLANTER if you know of any plan to prevent cow from throwing down fence with horns?

F. D. SWANN.

Caswell Co., N. C.

Hang a board in front of her eyes so that she cannot see the fence. A board about 8 or 10 inches wide hung from the horns by a cord will be sufficient. The cow can see to graze and walk around, but will let the fences alone.—Ed.

Sheep.

Please tell me which kind of sheep you think are best suited for this part of Virginia? Have been trying the Dorsets, but don't seem to have much luck with them. Have some grade Southdowns in my flock that seem to do better than anything else.

Pittsylvania Co., Va. T. J. FITZGERALD.

We know no reason why you should not succeed with Dorsets. They are doing well in many different sections of the State. We personally are great admirers of the Shropshires and they do well in the South. They are good as early lamb producers, good mutton sheep and shear a good fleece.—Ed.

Cultivators.

Please let me know in the next issue if you can give me the name of some manufacturer who makes

a two-horse cultivator that will work out a six-foot row of corn and will give satisfactory work from first to last working. Also if the same cultivator can be regulated to work in cotton, four feet rows, where there are but few stumps above ground. Which are the best walking or riding cultivators?

Robeson Co., N. C.

A SUBSCRIBER.

Refer to the advertisements in this issue. You will find a large number of different cultivators offered. Send to the advertisers for particulars of these and you will certainly find what you need. They are all reliable people. Some farmers prefer one make and some another.—Ed.

Riding Plow.

What is your idea on the riding plow, not the roller disc? It looks we will have to fix for the hands to ride if nothing but the wheels of the ox cart with the plow fastened under.

J. C. COOPER.

Surry Co., N. C.

There is no doubt but that riding implements of all kinds will have to be the rule in the future. There is economy in the adoption of this idea, as more work can be done in the same time and it can be done with much more comfort to the workman. The sulky plow used in the West can be used here though we are strongly disposed to think that the disc plow is to be the plow of the future. With riding plows and cultivators the farmer will be much less dependent on his labor as he can hitch up his team and mount the seat and do the work himself with little more fatigue than taking a drive in his buggy. One friend of ours who has adopted this idea has rigged up an umbrella over the seat and he says that he can work all day with comfort. His hands, too, appreciate the innovation and work more cheerfully.—Ed.

Cow Peas in Corn.

I want to know how to plant and cultivate the cow pea with corn. Can I plant the pea between the hills of corn in the same row? At what time shall I plant the pea so that I can harvest both at same time? What kind of pea is best for planting with corn? Will the pea vine run up corn like the bean?

Grayson Co., Va.

DR. J. RING.

The practise of growing cow peas in the corn crop to increase the value of the fodder as feed is one strongly to be commended. It has been successfully done in many places and can without doubt be done successfully in this State. At the Delaware Experiment Station the two crops are grown together for the silo and materially enhance the feeding value of

the silage. In planting the crop the corn should be put in at the usual time and then after the last working, say in June, the cow peas should be sown with a drill alongside the corn rows. The peas will then grow up the corn and the two crops can be harvested together. The best variety of peas to use for this purposes is the Whippoorwill, as the vines of this variety keep closer to the corn and do not tangle the crop together so much as do the ranker growing varieties, like the Black and Wonderful.—Ed.

Cow Peas, Canada Peas, Soy Beans.

Which of the legumes would be best suited to this section and climate as a soil improver and for forage, Cow peas, Canada peas or Soy beans? How much should be sown to the acre, and what is the best method of harvesting? Is it best to procure Northern grown seed, and when sown?

Wythe Co., Va.

G. J. REPASS.

In your section Canada peas would make a good crop for forage or hay sown as late as March, but after that time we would plant cow peas and soy beans. Both of these crops should do well sown in May. The New Era and the Red Ripper Peas should both do well in your elevated lands, and the Black and Whippoorwill on your lower lands. Sow a bushel to the acre broadcast and harvest by cutting with a mower and curing like clover hay. Soy beans, if intended for a hay or forage crop may be sown broadcast at the rate of a bushel to the acre, but we advise that they be planted in rows two feet six inches apart, and four or six inches apart in the rows. Cultivate like a corn crop, and they will soon meet in the rows on good land, and make a heavy yield. One and one-half pecks of seed will sow an acre. The Mammoth Yellow is the best and largest yielding variety, but is rather late in maturing for an elevated section, unless got in early in May. Wood & Sons, of this city, are offering a new variety the Hollybrook Early Soja, which they claim is three weeks earlier than the Mammoth Yellow. This may be better suited for elevated lands. We are not aware that you can get Northern grown seed of Cow peas or Soy beans, as they rarely mature seed far North.—Ed.

Cultivation of Cotton—Variety to Plant.

Please tell me in your next issue what kind of plows to use in the cultivation of cotton, and what kind of cotton to plant to produce the greatest number of pounds to the acre.

M. S. WHITTED.

Bladen Co., N. C.

We would never use a plow of any kind to culti-

vate cotton or any other crop. A plow has no place in a field after the crop is planted. Its work is to break the land for the crop. After this is done then the harrow and cultivator are the proper tools to use. Use a harrow to get a fine deep seed bed and after the crop has been planted and is growing use a cultivator to keep the soil loose and finely mulched on the surface to prevent loss of moisture. In the advertising columns of the PLANTER you will find many kinds of cultivators offered. The Iron Age is a good cultivator. So are the Disc cultivators. We hesitate to advise any particular variety of cotton, as the yield of any variety largely depends on its adaptability to the particular section. Usually a cotton which has been grown in a particular section and become acclimated to the soil and climate does best. What is needed is that each grower should make for himself a careful selection of seed from 1 plants when they are growing, and having fixed on a type, should improve the same by continued careful selection each year. In this way a variety will be secured adapted to the section.—Ed.

Teocinte—Millet—Crops for Hogs.

Will you kindly give me some points on teocinte; what distance do you plant it apart in drill, and how many seed. Also a treatise on millets; also sugar beets. I have a three acre lot. What is best to plant it in for hogs? Any information about hogs I will thank you for.

W. G. ROBSON.

Orange Co., N. C.

May is early enough to plant teocinte and millet. We will say something on these subjects in the May issue. Meanwhile we would say plant teocinte in rows three feet six inches or four feet apart and two feet apart in the rows. About three pounds of seed will plant an acre.

Sugar beets should be sown in drills two feet six inches apart in continuous rows. When the seeds have come up and the plants are large enough to handle thin to one plant every nine inches, and then keep the crop well cultivated and free from weeds. The land to grow this crop should be finely prepared and be rich or it will make but a very poor crop. In our last two or three issues we have published much matter on crops for hogs and refer our enquirer to these. Peas are the best crop to plant now for hogs.—Ed.

Cotton Fertilizer.

I have a good lot of ashes and wish to know what ingredients to mix with the ashes to make me a good guano for cotton. What proportions must I put in?

What will each ingredient cost to mix with the ashes to make 2,000 pounds? J. S. SPENCER.

Greensville, Co., Va.

In our last issue we gave advice as to the ingredients to be used to make a proper fertilizer for cotton. We refer you to that number, page 160. The ashes may be utilized as a general improver of the land by being spread broadcast on it, but cannot be made the basis of a good cotton fertilizer. They are valuable for the potash and lime contained in them, but the potash is not in the form best adapted to cotton. This should be kainit. A better use of the ashes could be made by applying them as a preparation for a grass crop or for a pea crop.—Ed.

Sick Cattle—Tick Fever.

1. Does tick fever cause cattle to be loose in bowels? If so, what is the remedy for it? My cattle have been loose in their bowels all winter, without any cause that I can see, as I have fed them hay and ground corn, and (for a change) corn fodder. They also run at the nose, and I have lost several. I bought a car of cattle in the Valley of Virginia in February, 1903, and brought them down here to feed for beef, but they have grown very little and keep poor all the time. Would like to know if cattle brought from the western part of this State or farther west will be profitable for beef purposes?

2. Ought horses and cattle be allowed to run in same pasture together?

3. Will horses catch tick fever from cattle if allowed to run together?

4. Will it be detrimental to our health to use milk and butter from cows so affected?

CROPSEY & MITCHELL,
T. P. CLARKE, Manager.

Dinwiddie Co., Va.

1. Tick fever does not affect cattle in the winter. The fever is only present when ticks are about, and they are killed by cold weather. Looseness of the bowels is not a symptom of the fever. On the contrary, constipation is the usual condition of the bowels during the fever. Your cattle are evidently suffering from some disease of the digestive organs, and probably from the effects of severe colds taken in the fall. Cattle brought from the West, if they are not brought early enough to take the tick fever, will usually do well on winter keep here. They should not be brought here before October, or they are pretty certain to have the fever, unless immunized against it. In the February issue we gave the results secured in feeding Angus cattle brought from the West into Louisiana.

2. There is no objection to horses and cattle run-

ning together on a pasture, though they are better kept separate.

3. The horses will not take tick fever.

4. This depends on the disease affecting the cattle, but we would not use milk from a sick cow.—Ed.

Cold Water Paint.

Can you tell me anything about the durability of cold water paint for the painting of buildings? Would be glad to hear from some one of your readers who have had experience with it.

Cumberland Co., Va.

T. N. WILSON.

We have had no experience in the use of cold water paint, and therefore can give no advice on the subject. Will some of our readers who have used it give their experience?—Ed.

Preserving Stakes and Posts.

Will you please state the cheapest and best way to preserve locust stakes and posts? Of what value is gas tar in preserving them? SUBSCRIBER.

There is a preservative on the market called Carbolineum, which is very highly recommended for this purpose, but we have had no personal experience in the use of it. If the posts are painted with gas tar this will make them last longer. Charring the part to be put into the soil by holding them in a fire for a short time also acts as a good protection. Pickling the posts in creosote also acts as a great preservative. Charring, however, is the cheapest and most readily available method.—Ed.

Crimson Clover and Sand Vetch.

Will crimson clover and sand vetch sown together the last of July or first of August thrive well for early spring forage for the pig?

Spotsylvania Co., Va.

W. N. UNDERWOOD.

We do not advise the sowing of these two crops together, unless there is also sown with them some cereal crop like winter oats, wheat or rye, or a mixture of all three grains, which is best. The crimson clover is not strong enough in its growth to hold up the vetches. Mixed with the grains mentioned they make a fine pasture for hogs.—Ed.

Diseased Apple Tree Branches.

I enclose apple tree twigs for your inspection. Please tell me what is the disease affecting them.

Webster Co., Ky.

J. K. MELTON.

The branches have been killed by the twig blight, which was very bad in some sections last year. This is a disease of the same type as fire blight on pear trees, and equally difficult of prevention.—Ed.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The seasonable change in the weather which has recently set in will, it is to be hoped, now continue. Everything is very backward in the garden and truck patches, fall planted crops having suffered very severely all over the country. As soon as the land is fit to work it should be stirred between the rows of fall planted crops to encourage growth and when growth has started it should be encouraged with a dressing of nitrate of soda. Land intended to be cropped should be worked into a deep fine bed as soon as dry enough, but do not attempt to work when wet. All compost and barnyard manure should be spread broadcast on the land and be worked in with the cultivator. If good crops are to be made there must be no stinting of the quantity of manure applied. Twenty tons to the acre may be put on without fear of spoiling vegetable crops. If there be not a sufficiency of farm yard manure supplement it with a high grade fertilizer made up of 300 pounds of acid phosphate, 200 pounds of cotton seed meal, 50 pounds of muriate of potash and 100 pounds of nitrate of soda. If no manure is applied double the quantity of the fertilizer. Let this be applied now and all be worked into the land and then lay off the land in long straight rows so that the crops can be readily worked with horse power.

Do not be in too great a hurry to sow seeds or set out plants. It is not yet too late for frost to strike and if young plants are just peeping through the ground they may be cut off and this means loss and a late crop.

English peas and Irish potatoes may be planted and small patches of salads, lettuce, radishes, onions may be sown, but it is best to delay the seeding of the full crop until the end of the month or the beginning of May.

In this issue will be found an article on strawberry growing and also one on asparagus growing from seed to which we refer readers.

Sow seed of tomatoes, egg plants, pepper and cantaloupes in the frames and get them growing. As they advance in growth see that they are set out in cold frames to become stiff, stocky plants, and encourage this kind of growth by giving air freely

whenever the weather is mild. Be careful not to have the plants drawn by being grown in too hot a temperature.

Whenever cabbage plants have been killed by the frost work the place well with a hoe and set out a new plant from the cold frame. Give frequent cultivation and when the crop is fairly growing give a top dressing of 100 pounds of nitrate of soda to the acre.

Bed sweet potatoes for draws. See that the heat of the hot bed is not too great when the potatoes are bedded. Better have it too cold than too warm. The weather will now soon warm up the beds and frames and they must be watched to check overheating by giving plenty of air.

See that the spraying of the orchard has attention. In our last issue will be found full instructions as to sprays.

Let the lawn and flower garden have a good tidying up before work on the farm presses for attention. Clean up all trash and leaves and rake the lawn. Dig over the flower beds and give them a good manuring so that they may be ready to receive seeds and plants when the weather is settled and warm enough. Let this part of the home grounds at least be made attractive during the summer.

Don't go off to plant the farm crops until you have left everything in order in the vegetable and flower garden so that without loss of time crops can be put in and plants set out at odd spare moments, and then the ladies of the house will be kept in good humor and the table will be helped and beautified.

THE BITTER ROT OF APPLES.

This disease which is unfortunately widely spread in the orchards of this State and caused great loss last year is the subject of a bulletin prepared and now being got ready for distribution by the Virginia Experiment Station. We extract the following matter from the same as being of importance to be at once in the hands of fruit growers. In our last issue will be found full instructions for preparing Bordeaux mixture.

LIMB CANKERS AS SOURCES OF INFECTION.

The publication in July, 1902, by Burrill and

Blair of their observations on the so-called bitter rot canker, and later publications by Von Schrenk and Spaulding along the same line, have raised a question of the utmost importance in connection with the annual recurrence of outbreaks of this disease. There cannot now remain the slightest doubt but that these gentlemen have found the bitter rot fungus growing and producing spores in "cankers" on the apple limbs. Dr. Burrill has very kindly furnished me an apple limb showing a canker in which the parasite in question was unmistakably present and fruiting. It may also prove true that the statements of these gentlemen to the effect that the "Bitter Rot Cankers" on the apple tree limbs are the chief sources of the reinfection of the fruit each succeeding year in the districts in which these observations were made. But careful observations made here the past two summers show that these statements do not apply to the occurrence of the bitter rot in the station orchards here. We had for some time been observing the cankers on both apple and pear in connection with an investigation on black rot of the apple, *Sphaeropsis malorum*, and of the pear blight and twig blight of apple. In no instance have we been able to find the presence of the bitter rot fungus on the limbs or trunks of apple or pear, though we have especially watched for its occurrence since the appearance of the publications cited.

During the past summer and fall the bitter rot caused immense damage in the apple orchards in some portions of Virginia, and so far as able, the writer visited the orchard sections for the purpose of making observations on the trouble and the probable sources of annual reinfection of the fruit. Canker spots on the limbs of the older apple trees were found in plenty, especially in those sections where twig blight commonly occurs. In no case were we able by observation to trace the slightest connection between cankered limbs and the occurrence of rotted fruit. Later microscopic examination of some of the more promising material failed to show any trace of the bitter rot fungus in the canker spots.

We have frequently found the bitter rot present where no trace of cankered limbs could be found, and the cankered limbs without the presence of bitter rot. The often remarked occurrence of this trouble on the fruit of young, healthy, smooth trees bearing their first crop shows plainly that we are not yet warranted in attaching much importance to the cankered limbs as the source of infection in this State. Consequently we suggest that our apple growers should be slow to undertake severe pruning in order to remove cankered limbs. When pruning is necessary, if these injured limbs can be cut away without harm to the tree, this course is advised, but we advise against attempts to control bitter rot by cutting out the cankered limbs.

No fruit grower in this State has reported to us reliable observation which in any wise connects the outbreak of bitter rot with the canker. Some have remarked in their correspondence that the cankers are the source of the infection, but this is scarcely convincing. It would be a great service if fruit growers would observe this matter closely in future, and report any observations they may make and send us specimens for verification. This question was referred to a number of the best specialists on fruit diseases in the Atlantic Coast States, and without exception they have so far reported that they have not observed that the "cankers" are the source of the bitter rot infection. The mummied fruits are universally regarded as the chief source of primary infection.

SUGGESTION ON TREATMENT.

Up to the present, so far as known to the writer, no thoroughly satisfactory study of remedial measures for this disease has been made. Sporadic and incomplete efforts to control the bitter rot by the use of Bordeaux mixture, ammoniacal copper solution, sulphate of potassium, etc., have been frequently made, but no convincing statement as to just how to proceed to its rational and safe control has come to our notice. The serious difficulties attendant upon the treatment of such a trouble is responsible for this somewhat chaotic condition of affairs. A result to command confidence must show what can be accomplished in a series of years in comparison with unsprayed fruit of the same variety and grown under like conditions. So far as my own observations and experiments go, I am sure the first step ought to be directed to—

Removing the sources of infection.—It appears to be well established that the mummied fruits hanging to the trees and the rotted fruits upon the soil constitute in large measure the source of the annually recurring infection. Then they should be removed. I have often suggested in correspondence to growers that they remove the growing fruit just as rapidly as it shows rot. This has been practiced on a large scale in Illinois, according to Burrill and Clinton. In 1901 we first resorted to this practice in the station orchards, with apparently very beneficial results, as the spread of the rot was stayed through this effort, coupled with the application of spray washes.

However, we have never found that removing the mummied and rotted fruits, or the growing fruit as it begins to show rot, will wholly prevent the disease. If promptly and efficiently followed, these practices accomplish good, but are not sufficient. All diseased fruit removed should be so disposed of as to prevent dissemination of the spores. Possibly burying is the simplest plan. We are now prepared to say that in many instances we believe it would be very wise to remove certain varieties or certain trees on which the

disease seems to start. Intelligent observation must determine such points. As stated under a previous section, we are not ready to recommend extreme efforts to cut out all cankered limbs in Virginia orchards. There is as yet not sufficient evidence to warrant such a step; but they should be cut out whenever in the ordinary course of pruning this is found possible.

We have strong ground for saying that the second, and perhaps most important, step in the way of remedial measures should be the—

Application of sprays.—In saying this we do so fully realizing the fact that there is evidence against hopeful results. But the best results from experiment stations, and the best work accomplished by fruit growers, indicate clearly the value of the Bordeaux spray.

The time and method of application of the spray is so essential that no result of value can be hoped for unless these details are observed. There is no proof that winter washes of any kind applied to the trees will lessen the disease. Yet on general grounds we advocate winter washes as a part of a rational system of treating the orchard. There is also no evidence that the early spring sprayings recommended in our Bulletin 100 have any effect whatever upon the prevalence of bitter rot. These early treatments are very essential to the health and vigor of the orchard, and should be made as directed in the Bulletin above cited, and if omitted may, and in many cases will, result in worse damage to the orchard than ordinarily occurs from the bitter rot fungus; but we wish to be clear that these early treatments are not to be considered as primarily affecting the bitter rot question one way or the other. If they do, no one has yet proven this fact so far as appears in the literature. The most careful early sprayings here have been wholly negative as to results against bitter rot.

This brings us to the point where we wish to say that, in our opinion, the only spray treatment of value for this trouble is that which is applied directly to the fruit. The treatment being preventive, and not curative, the application must be made in advance of the infection. In all our observations the rot has never appeared before the first of July, consequently we advise that spray treatment for this trouble should not begin before that date. If the season is favorable to rot—viz., sultry, with hot sunshine and showers—and the set of fruit warrants, the first application should be made about the date mentioned above—say July 1st to 10th. The grower should also watch carefully for the first appearance of the disease upon the fruit. If the spray has not been applied when the disease is first observed, make the application at once. If the fruit has been sprayed, and the characteristic rot spots appear, respray the fruit at once. One cannot do more than keep the fruit cov-

ered with a thin coat of the spray preparation. If the Bordeaux is properly made and applied, it will adhere sometimes for weeks, and I have known it to adhere for two months on some varieties. The recommendations as to specific number of applications to be made have no value. This must always depend upon the judgment of the grower, and be governed by weather conditions, etc. Wm. B. ALWOOD,
Expt. Station, Blacksburg, Va. Mycologist.

STAWBERRY CULTURE.

Editor Southern Planter:

The strawberry is the most important small fruit the Southern farmer can grow. It is the earliest fruit we have, very handsome, and of fine flavor, if good varieties are grown. It is very easy to grow, and very productive. Nearly every one likes the large, red strawberry. But why is it so few farmers grow enough for family use? There is always a demand for any surplus the farmer may have. An acre of strawberries near a town might bring more clear cash to the farmer than a whole field of corn. I write this article to urge all farmers who do not grow this excellent fruit to get some plants and set them out this month. Now is the time, do not put it off.

Prepare the ground well, give it a coating of well rotted manure, with no seeds in it to come up afterwards and give one the backache. Make the rows three feet apart across the garden. Under field conditions, I prefer them three and one-half feet apart. Set the plants eighteen inches apart in the row. Open a hole in the ground large enough to permit the roots being well spread out. Press the dirt firmly around the roots with the hand. Do not cover up the crowns of the plants with soil, as it will smother them. Do not wait for the soil to become wet before planting. I prefer to set when it is in good working order. Do not let the roots of the plants become dry by exposure to air and sun while setting. If these instructions are followed carefully a good start with the strawberry will be made. But what varieties should I plant? That will depend largely upon whether you want the fruit for early or late market, or for family use. There are several new varieties being introduced every year with more or less merit. The farmer can experiment with these all he wants. No doubt some of them have excellent qualities. Ten years ago I helped to test over one hundred varieties in this State, and four years ago I had one hundred and forty varieties under test in Texas. I liked the Haverland variety best for

Virginia, and the Excelsior and Lady Thompson varieties best for the Gulf States. There may be better varieties than these I mention, and where the farmer knows of a good variety for his locality he should plant it.

Keep the weeds out of the rows through the summer, and give the plants frequent shallow, level cultivation. Let the plants mat in the row forming a matted row twelve inches wide.

CARE OF OLD BEDS.

We frequently see small, weakly plants growing among weeds and grass, which bear a scanty crop of small fruit. What should be done with such a bed? Frequently it would cost more than the fruit is worth to clean out the bed. I would make a new setting on clean land at once, and let the old filthy bed bear what fruit it will without work. After the plants have fruited in this old bed, I would plow it up and plant something else on the soil. Two or three years is long enough to allow a bed of strawberries to stand.

R. H. PRICE.

Montgomery Co., Va.

ASPARAGUS FROM SEED.

How to get good asparagus has generally been considered a difficult problem, but the difficulty is more imaginary than real. To solve the problem I made a determined effort, first by availing myself of the experience of the most distinguished horticulturists of the past 300 years. I found as often as once in 75 years a sentence as follows, with scarcely a change of word: "Most of our gardeners are now falling back to the old method of sowing the seed where the plants are to remain, as we can get much better results than by putting out roots, one or two years old, which is now the common practice."

This method commended itself to my better judgment, from the fact that some of the allied species, grown in greenhouses for florists' use, cannot be profitably grown in any other way. That is, when a bench is to be filled it will not do to take old plants and reset them, but young plants grown in pots alone must be used, as the slightest injury to the roots was fatal to success and that because of their fleshy, succulent nature.

In the spring of 1901 I had a bed prepared in the following manner, and the seed was sown May 20. Trenches 3 feet deep by $1\frac{1}{2}$ feet wide were made, 5 feet apart. At the bottom of each I put in well-rotted manure, mostly from the cow stable, to the depth of 1 foot, and packed it well. The trench was then filled to within 6 inches of the top with well-rotted manure and the soil which was thrown out, in

about equal proportions, and thoroughly incorporated. Upon this the seed was sown thinly, and covered half an inch deep with the soil as thrown out, and firmly packed down. The young plants soon appeared and were thinned to 1 foot apart in the rows. They should have been to 2 feet apart, as the plants now are sadly too close. Growth was rapid, and I soon began to draw in the earth around the plants until the trenches were filled to the level.

Before the season of growth was ended there were, on an average, six strong, healthy stems, many of which were 4 feet high, bearing a full crop of seed. As soon as the ground was frozen, the tops were cut, carted off, and the whole bed covered with 3 inches of coarse stable manure. My first work in the garden in March was to rake out the straw from the manure and give the bed a slight dressing of common salt, about one bushel to 20 to 25 square rods. This, with the manure, was forked in to a depth of 4 inches, but not deep enough to injure the crowns.

Just eleven months from the sowing of the seed I cut asparagus, some of the heads being fully three-fourths of an inch in diameter. Before the first of June this season I cut two bunches, to show what could be done. Many of the stems were an inch in diameter at the base and nearly $\frac{3}{4}$ inch 2 inches below the tip. The same treatment was given the bed the past winter and spring, and there was cut daily early in May last season, from this bed, of about one-eighth acre, 500 heads of asparagus, as fine as was ever sent to market, both as regards size and quality.

There were several causes that contributed to this success—among them: 1st, extreme cultivation; 2, favorable soil and situation; 3, the sowing of the seed where the plants were to remain; and, 4, variety, which was a selection from the Palmetto, known as the Great Emperor.—C. S. Allen in American Agriculturist.

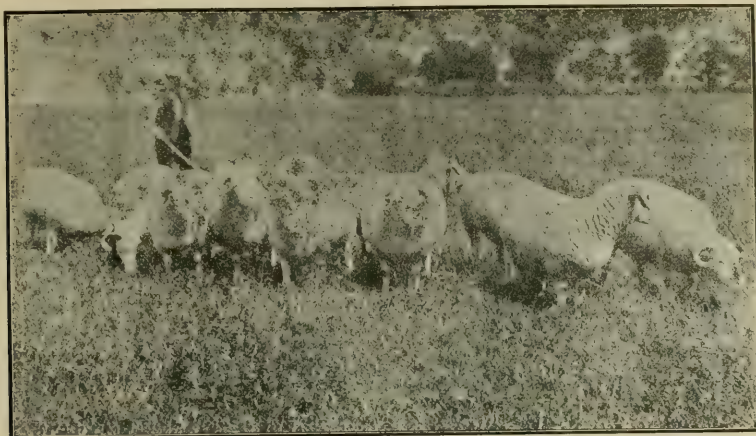
Fertilizer for Oats.

Please let me know in the PLANTER what kind of fertilizer is best to put on spring oats, and where it can be bought, and what is the price of same? Would also like to know how to put oats in. I live on south side James. Our land is light and sandy. Our crop here is peanuts. What manure would suit them best, we have to use marl or they will come pops?

S. B. E.

Give the oats a top dressing of nitrate of soda, 100 pounds to the acre. This can be bought from William S. Myers, 12 John street, New York, whose advertisement you will find in the PLANTER. In our last two issues we gave advice as to seeding oats. In the last issue you will find advice as to a fertilizer for peanuts.—Ed.

Live Stock and Dairy.



A TYPICAL DORSET FLOCK.

HAY SUBSTITUTES FOR STOCKFEEDING.

(Continued from March issue.)

HAY SUBSTITUTES FOR WINTERING BEEF CATTLE.

Realizing that many farmers would wish to see similar work carried out with beef cattle, we selected fourteen spayed heifers, feeding them with articles of roughage as mentioned before, giving some of them a portion of hay, but no silage. We wanted to keep them in a thrifty condition, but did not aim to put on a large amount of flesh; therefore gave each eight pounds of a mixture similar to that given the cows, except without the middlings and linseed meal. Grain ration was same in all cases.

TABLE II.

Number.	Weight at Beginning of Experiment - Lbs.	Weight at End of Experiment - Lbs.	Gain. Lbs.	AVERAGE NUMBER LBS. CONSUMED WEEKLY.			
				Hay.	Stover.	Straw.	Hulls.
1	1,034	1,055	21	91.2			
2	1,000	1,108	108	90.6			
3	954	1,000	46		83.2		
4	934	1,059	125		80.3		
5	910	917	7			31.2	
6	914	944	40			31.6	
7	919	1,050	121				58.5
8	910	962	52				51.5
9	950	1,010	60	41.6	34.2		
10	826	904	78	48.4	40.5		
11	827	844	17	48.9		17.2	
12	830	906	76	46.4		18.3	
13	818	830	12	44.5			30.1
14	826						

As a basis of comparison we gave Nos. 1 and 2 hay alone. Heifer No. 1 should be eliminated from the

test for, on account of not being accustomed to stalls in the barn, she constantly injured her knees, so much so, it was very evident it retarded gain in flesh, the others not suffering in like manner. We were also unfortunate with two others in the series. No. 14 receiving an injury by falling, of such severe nature, that she was taken out of the list early in the test period. The heifers were all bought as spayed animals, but toward the close of our work, it became very evident that No. 7 would soon drop a calf and hence this one should not be considered in the list. With these exceptions the cattle were all very thrifty and as uniform as a bunch of grade Shorthorns selected from seventy-five animals, could well be. Looking at the gains of four animals first in order, we note the rather remarkable fact that the ones eating stover, made a greater gain than the ones eating hay. Even if we leave out No. 1 as suggested, the stover fed lot lose nothing by comparison, as the best of the latter lot made 17 pounds more gain than the better one of the hay fed lot.

Proceeding with Nos. 5 and 6, we note that only a very small amount of straw was eaten, and the gains were relatively small, only seven pounds in one, and forty pounds in second case. If we eliminate No. 7, as we should, on account of being with calf, then the gains of the lot given hulls, would seem but little better than the previous ones, even though they ate much more of the hulls than of the straw.

As we proceed with the balance of the cattle, we

note nearly the same proportionate gains. The average of the two having hay and stover, is considerably more than the next, which were given hay and straw, or of the last, given hay and hulls.

Summing up the work in both tests herein described, it would seem that we can draw some quite definite conclusions, at least for this section of the State, and with one or two modifications, for other portions of Virginia.

Corn stover can be used to excellent advantage as a roughage for beef animals and with a moderate amount of grain, it compares very well with others given hay. For dairy cows and when used with silage and a moderate grain ration, it makes an admirable food. We have given a herd of dairy cows no roughage for the entire winter, except stover and silage, with grain as mentioned. The animals gave every appearance of thrift, and a good flow of milk continued.

At time of writing and for a month and a half previous, this has been the food given to our herd of over a hundred animals and with most excellent results. The use of straw cannot be so highly commended, and yet it can serve a good purpose, especially when hay is high in price. If given more grain to make up for the deficit in quality of the straw, it will carry stock safely through a winter, and even horses may do hard work, if given the best of care. Of course if one can get oat straw it is considerably better than that from wheat. For dairy cows, or in fact for stockers to be carried over, if they can have some silage and the straw mixed with it, as mentioned before, they are likely to come out in the spring in a very thrifty condition.

Of the cotton seed hulls, we cannot speak very encouragingly, *for this section*. As one authority states, "they are in value about equal to oat straw." From our trial we should so consider them, though we were obliged to tempt the animals by every known means, before they would eat them, due very likely to the fact they had never had access to them before.

It would seem as though it was unwise to ship such a roughage from the South where all coarse food is in demand, to this region where it is easily grown. We cannot hope to get them here for less than \$7.00 to \$7.50 per ton in car lots, and if they are only of the value of oat straw, that is too much to pay for them.

While mentioning cotton seed hulls, let us sound a word of caution concerning another product, at times sold as cotton feed, that is cotton seed hulls with a slight amount of cotton seed meal, mixed with them.

The meal, of course, would add to the value of the hulls, but it affords so much opportunity for the maker or dealer to add greatly to selling price of the hulls, with addition of a very small amount of the meal, it is a very unsafe article to buy. To give a more definite turn to the argument, we have on hand hulls, that could probably be bought in small lots for not more than \$9.00 per ton, and perhaps for less. These contain, according to analysis made by our chemical department, 4.19 per cent. of protein. Some cotton feed, (hulls and meal mixed) recently purchased near here at \$14.00 per ton, contained only 4.63 per cent. of protein, or less than a half per cent. more than the hulls alone, but with a price five dollars per ton higher. We are also using some cotton meal that could be bought in car lots at \$26.00 per ton and this contains over 46 per cent. of protein. Compare this with the so-called cotton feed, and one can see at a glance which is the cheaper food to buy. In portions of Virginia where freight rates are low, it may be possible to use hulls to advantage, but rather than buy the mixed hulls and meal, it is far better to buy each separate and mix in proportions and as wanted.

In seasons such as the one just past, when the rainfall is so small in the early spring as to seriously cut off the hay crop, we often look about for some plant to sow to supplement the small hay harvest.

Millets are often sown and with excellent results, but corn may be planted later than is usually considered wise and yet get a valuable crop. This season we had almost no rain until the last days of June. As soon as the soil was moist enough to plow, we turned a piece of turf (after cutting a very poor hay crop), ordered it, put on 200 pounds per acre of 16 per cent. acid phosphate, and planted to corn, finishing on July 3rd. A portion of the field was planted with a very small variety known as Pride of the North and the balance with the larger and yet rather early Leaming. The stalks of the former were small, hardly larger than ones thumb, full of leaves, and in September before frost came the ears were well in the milk state. The Leaming was nearly as far advanced in the ear, but the stalk was much larger and did not cure as thoroughly after cutting. To cure it we cut with a corn harvester, dropping the bundles separately and allowed to lay for three or four days and then shocking. This was used during last of December and first of January and was much relished by stock. We obtained from the small variety, a yield of 4,220 pounds per acre and of the larger variety 3,860 pounds per acre, the former having

been planted somewhat thicker to make up for small size of plant. Considering the late date of planting, the crop was a good one and makes a very satisfactory "hay substitute" and while costing far less per ton than the cotton seed hulls, was worth more to us.

D. O. NOURSE, *Agriculturist.*

Experiment Station, Blacksburg, Va.

We have fed both oat and wheat straw largely to cattle which were only desired to be kept in thriving condition. Our practice was to cut the same into chaff and then spread a layer on the feeding house floor, say six inches thick, damp this well with water then add other layers and damp same until we had sufficient for a day's feeding. Mix well and then make up into a compact heap and cover with bagging. In 24 hours the heap will have warmed up and if then a little grain feed be mixed with the straw or if cut roots be fed with it the cattle will eat it readily and do well on it.—Ed.

SOME PREDISPOSING CAUSES OF DISEASE AMONG HORSES AND CATTLE.

Editor Southern Planter:

During the last few months I have been called to several different counties in the State to investigate what was thought to be a contagious, and entirely new, disease among horses in two cases, and cattle in several others. However, I have found only a very few outbreaks in the State that were of a contagious nature, thus needing quarantining. On the other hand I have seen numbers of animals, that were thoroughly diseased, and in fact, in a most debilitated condition, the initial cause being the extreme winter, faulty diet, over work and defective sanitary conditions.

The farmer knows well that the colder the weather the more wood is burned in order to keep the sitting room warm; likewise thicker clothing, and especially bed covering, is used by the entire household, yet very few farmers think it necessary to increase the warmth of the stable during an extreme cold spell. They will let the straw rot out in the field in an old stack, instead of putting it under the horses for bedding where it will not only keep the poor animals warm and comfortable, but will also absorb the urine and be much better manure than it was when left in the field.

Every farmer will admit that "corn is heating," yet few of them think to give each animal an extra supply of that warming material on a cold night.

Anything that is debilitating to the animal's system predisposes said animal to disease. An animal that is very hungry, and is not furnished the proper food, will often eat materials which are injurious to its health; though it is commonly thought that just because an animal eats a thing that the particular thing eaten is of course good for the beast.

In fact, faulty diet predisposes the entire system to disease; non-nutritious, indigestible food is undoubtedly the cause of a great many deaths among the domestic animals of our country that are supposed to have died from the effects of some contagious disease.

In other words, an indigestible substance passing through the alimentary canal of any animal has about the same effect upon the animal as an iron bolt, or tap, has upon a shredding machine when it is accidentally fed into the machine—it renders the machine incapable of properly shredding the tender fodder that it once shredded to perfection.

Pure, nutritious, food is very essential to good health as it strengthens the animal and enables it to throw off disease.

Overwork also often debilitates an animal to such an extent as to make it either refuse its food, or be unable to digest the food when taken into the system, thus leaving the animal in a condition to contract many diseases that a strong individual would readily resist.

Last to mention, but not least in importance, is the defective sanitary conditions which I have observed at the sleeping, feeding and watering places of horses and cattle in this State.

Every stable should be cleaned out daily, yet I find horses standing in manure to their fetlocks; the stable should be warm and dry, though well ventilated. I noticed cattle fed on the ground in barn lots, where half of their food was out of sight in the mud under their feet.

Now as to the water supply, it is a wonder to me that some animals ever get out of the water after they go in to drink, as I have seen the mud on either side of the stream so stiff and deep that it was hard for a 1,200 pound horse to make his way out of the water after drinking, thus no animal would go into the ford unless it was very thirsty. The water should be easy to reach, and above all, everything around the drinking water should be clean.

Less medicine and more caution as to food and the general surroundings of the animals will largely reduce the per cent. of diseases among all farm stock.

J. G. FERNEYHOUGH,
State Veterinarian.



HAMPSHIRE DOWNS IN VIRGINIA.

At Round Hill Farm, Loudoun county, Va., Mr. J. D. Thomas has one of the finest flocks of Hampshire Down Sheep to be found in this country, of part of which we reproduce a picture recently taken. This flock was established in 1892, and has been carefully bred and constantly improved since that time. The flock has supplied many choice specimens of the breed to breeders all over the Northern, Eastern and Southern States, and has been productive of much wealth to the owners. The Hampshire Downs are one of the largest types of Down Sheep, and have blacker faces and legs than any other of the Down breeds. They are prolific breeders, producing twins almost regularly, and often triplets. The lambs grow fast, and the sheep mature early. They are fine mutton sheep, and shear a heavy fleece of medium fine wool. The breed acclimatizes well in the Southern States and is one worthy of the attention of sheep lovers.

SHEEP PARASITES—STOMACH WORMS.

Editor Southern Planter:

We hope to say something about sheep parasites that will be helpful to our Virginia farmers. We have learned through much experience on Edgewood Farm and having come through victorious as regards one form of parasite, we think we can be of some service to others.

Many years ago we started in the sheep business on a large scale for our farm, using grade Down ewes and Shropshire and Southdown rams of pure blood. We had for a few years wonderful success with our lambs. Our lambs generally got away in June averaging from 88 pounds to 92 pounds, a large number of them weighing as high as 115 pounds and some even more than this. We knew as little about sheep parasites then as a rabbit. At that time few were

writing about such things, for most people were, like us, ignorant of such things. Occasionally a shrewd farmer would write some story about worms in his lambs' stomachs, but most of us paid little attention to his story, thinking it about as improbable as the one about the sheep biting their heels and getting grubs in their nose.

Some years later our lambs began to fall off some, although we were improving our flock all the time. About 1890 they were weighing only about 80 pounds, but such lambs were good and we were making good profits, so we wondered quietly about the falling off and said nothing. A few years later we were selling lambs that averaged only about 75 pounds, a steady decrease every year. We began to notice considerable coughing in our flock and occasionally we would note the death of a lamb from "paper-skin," an old disease which for years had been known to attack late lambs in seasons of unusual rainfall. We had a few years before introduced the Dorsets and they were allowed to run with the other sheep. The thing that stirred us up, was the loss of three beautiful purebred Dorset lambs from the "paper skin." One of our finest Dorset ewes did not do well during this year, but in spite of it she dropped two lambs that fall, went through the winter pale in skin and weak, got with lamb by accident and the next April dropped two more lambs. The strain was too much and she succumbed. I look upon the loss of this favorite ewe as the best thing that ever happened to us in the sheep business. This led to investigation. Hundreds of stomach worms were found in the fourth stomach of this ewe and every lamb that died that spring, and we had plenty of victims, revealed abundant proof of the presence of these small thread like worms in the stomach and intestines. We knew the trouble, but could find no remedy. The papers were being filled with statements about the parasites, but the remedies suggest-

ed, the principle of which was turpentine, afforded no relief. We were having heavy losses both among our ewes and lambs and the lambs we put on the market were mean and trifling. Most of them were left on our hands and those that were taken up rarely weighed as much as 65 pounds. We had reached the bottom and began to stop the sheep business.

Finally, we struck an article by Joe Wing, well known now as an agricultural writer, describing some of his experience. He had suffered as we had, but had learned of gasoline as a remedy, tried it with good results, and recommended it. We tried it on some of our lambs and saved the lives of some. Others tried it and reported many deaths from the gasoline and had no favorable reports from its use. Unquestionably gasoline would sweep stomach worms, or, at least many of them from the lambs, but lambs that had been attacked never seemed to grow and it appeared impracticable to maintain the sheep business by trying to fight off stomach worms with gasoline, so we let the body of our flock go, but not until we had learned a most important lesson. As we valued our Dorsets most we separated them from the main flock and kept them from the old pastures. They were dosed with gasoline and turned on our wheat fields or first year meadows. After the first year we noticed that our Dorset lambs had pink skins and got fat, weighing as much as 100 pounds, while the lambs kept on the old pastures were trifling as before and were true types of the stomach worm lambs. This clearly showed that the pastures were in part, at least, the source of infection. This was an important point. We resolved that our Dorsets should never be allowed on the infected pastures again and should be given a dose of gasoline every spring before the grass had come. We have followed this plan strictly and now for several years our Dorsets have been in the pink of condition and no evidence at all of stomach worms. Last June our Dorset lambs were as fine as we ever saw. We had one that weighed 139 pounds and others that went above 120 pounds. Lambs that weigh like this are not hurt by any form of parasite.

I have rehearsed this to convince you that we have had some experience. Now very briefly allow me to give a plan, which may save you from disaster in the sheep business.

Biologists do not agree on the development of the stomach worm. Some think that the eggs of the worms—that they are good layers, no one who has ever seen a female worm under a microscope can doubt, for I suppose one thousand eggs would be a low estimate for the mass of eggs found in the egg

bag—are passed with the dung and in the summer months hatch out in the soil and the larvæ crawl up on the wet grass and are thus picked up by the lambs. This is not at all implausible and will explain our infected pastures. It is hard to explain their enduring the hard winters in the soil and keeping the soil infected for two or three years after sheep have been removed from the pastures. It must be remembered that much can be said against this plan of development. Two trustworthy Southern farmers report fearful ravages from stomach worms among their lambs, when ewes had been brought from another State and turned to pastures that had not seen sheep in twenty years. In both cases it has been proved, however, that the ewes were badly infected and had given poor results the year previous. In these cases the parasites most certainly wintered in the ewes and in the spring the eggs were passed out in sufficient number to infect the pastures by May, so that the lambs were sure of getting the worms, or rabbits, which are known to be subject to the same parasites, had infected the pastures. This, by the way, may explain the well known leanness of the East Virginia "old har." It seems to me that it suggests most strongly that stomach worms pass the winter in the intestines of the sheep, or in its tissues, although I must say that an examination of two from flocks known to have been infected the summer before failed to reveal any stomach worms in the month of December. This will not settle the matter. We need more evidence. In order to make ourselves doubly safe let's suppose that both methods of development are possible. How shall we proceed? First, get your sheep off the old pasture for at least three years. If you cannot furnish enough meadow pasture for your flock, pasture what you can on your meadows and rent pasture for your sheep on farms, where sheep have not run. You can use your own pastures for cattle. It will be a good thing for your farm pastures to get sheep off them for a little time, even if it will give weeds a fine chance.

Second, about April 1 give all your ewes two doses of gasoline on successive days, keeping them from food for twelve hours before giving the dose.

Third, when you wean your lambs, give them two doses of gasoline administered in the same way and turn them on your wheat stubble or on your meadows, which have just that year been cut.

By this plan I think you will within four years eradicate stomach worms entirely and then, for your own sake and for the sake of your neighbors, never give the stomach worm another chance. To do this

I recommend the cutting down of your flock permanently, if you have been heavily stocked. Better raise 100 lambs that will weigh 80 pounds in June than 200, half of which will not be taken up at all and the rest at about 65 pounds. If you have about half the sheep your farm will carry, my advice is to pasture these on one-half the farm for two years, using the other half for cattle, horses and hogs and for the following two years exchange pastures. In this way you can keep your flock in fine health and can raise lambs that are worth handling.

I am aware that many Virginia farmers do not suffer as much from stomach worms as others, as they raise early lambs and get them off in May. Not till June do the stomach worms get in their work, but this does not save your ewe lambs that are kept over.

In administering gasoline observe the following simple directions and you will lose no sheep and have no trouble:

1. Use a bottle with very long neck, or choose one into the neck of which a six inch rubber tube will fit tight and snug. This bottle should hold eight or ten ounces.

2. *Never give over a tablespoonful of gasoline to one sheep.* If a lamb weighs less than 60 pounds give two teaspoonfuls.

3. Put the gasoline into the drench bottle first and then six ounces of milk. Shake well.

4. *Never force the dose.* If a sheep struggles, remove bottle from mouth. Let the sheep take its time about swallowing. Better just push the sheep up in a corner and let some one hold it firmly, while you very slightly elevate the head and administer the dose. Don't push head up high; you will strangle it every time and this is fatal.

I have dosed hundreds and never lost but one and I am sure this sheep had heart trouble of some kind.

Maxwellton, W. Va.

H. B. ARBUCKLE.

WE DISOWNING LAMB.

Editor Southern Planter:

A ewe can be made to own her lamb by cutting off its tail and rubbing the blood on her nose. Seeing the lamb in distress arouses her motherly instinct, or the taste of its blood has the proper effect, and she will give you no more trouble.

Campbell Co., Va.

H. T. PATRICK.

We have often succeeded in making a ewe adopt a lamb by smearing it with the blood and mucous matter discharged by the ewe after lambing.—Ed.



THREE DORSET LAMBS

bred on Edgewood Farm, W. Va. In June these lambs weighed 139 pounds, 129 pounds, and 122 pounds, respectively.

TEXAS FEVER.

Editor Southern Planter:

I beg to offer, through the columns of your valuable paper, a receipt for the prevention of Texas Fever in cattle. If I mistake not, this receipt appeared in the SOUTHERN PLANTER at the time Mr. Ruffin was the editor, but whether it did or not, I can and do recommend its use by all parties owning cattle in infected districts. I used it for a number of years while living on a farm near and around which Texas Fever prevailed annually, yet I never had a case of the fever amongst my cattle. A brother of mine also used it for a longer period than I did, with the same success. I have also given the receipt to others, and received in every instance favorable reports. Mark you, this is a preventive and not a cure for the disease. The following is the receipt:

5 tablespoonsful; saltpetre, 3 tablespoonsful (pul-
5 tablespoonsful; sale petre, 3 tablespoonsful (pul-
verized). Mix thoroughly and feed to the cattle in place of salt, beginning to use it the last of April or first of May, and continuing its use until the last of October. Give it to them at least twice a week. Let me say further, that at the time Mr. Ruffin edited the SOUTHERN PLANTER this disease was known as Dry Murrain and not as Texas Fever. So great is my faith in this prescription that I believe by constant use of it in any community, Texas Fever, in a few years, will become a thing of the past in that community.

THOMAS E. COBBS.

Orange Co., Va.

The Poultry Yard.

THE TURKEY OUTLOOK.

Editor Southern Planter:

The great demand and unprecedented prices for turkeys for the last few months ought to open our eyes to the need of more enterprise in this line of business.

The prices alone leave no doubt as to the small number of turkeys left to begin with this season. A large number of turkey raisers sold out entirely, leaving a few in possession of the field. Now is the time to begin with a few and build up a reputation for the future.

It is in order to begin turkey culture in a business-like way and not trust to luck for results after a little attention at first. I know people who say the least attention given to a flock of turkeys after the first few days, the better luck may be expected, but from long experience I know this to be erroneous. It is quite true, what few arrive to maturity are splendid specimens, but that is a proof of the "survival of the fittest," as only those of iron constitution can stand such a life. A young flock should have regular attention for months, in fact at no time should they be compelled to gather all their food. Such a season as last year puts us to the test. The long continued dampness, I might say rain, made the turkey business dark and uncertain, and resulted in total failure in a number of instances. The long confinement in close quarters was found as destructive to life as running at large, getting wet and drabbed. This fact should make the future outlook better, for we should not embark upon the coming season without proper preparation for all kinds of weather—if we have realized our mistakes. A larger house with plank floor will be a necessity. Upon this litter straw, etc., may be scattered, and always grit, and green sods for the mothers who abhor close quarters.

Young turkeys have ravenous appetites, and while four feeds may be given with impunity, the first week of their lives daily, too much at a time would be detrimental. Hard boiled eggs, corn bread, stale lightbread are all good feeds but vary them, so as to keep them hearty. If any seem sleepy, or a little slow examine them carefully for vermin. These often exist when not visible. Dust the mothers with Persian Insect Powder and grease the heads of the young ones with lard and kerosene oil every few weeks. When they get as large as frying size chickens use insect powder occasionally. Feed wheat,

cracked corn and bread. Keep lime always at hand, there is nothing they relish more. Mix it up like dough with a little water and scatter it around the place. All the chickens will help to eat it, and pay you in eggs for your trouble. Keep the turkeys tame. Teach them to look for food at the same hour and place each day and they will soon meet you there. There is no grander fowl raised, and nothing that gives a better return for care and attention than the turkey.

MRS. JNO. F. PAYNE.

Altamarle Co., Va.

THE BEST BREEDS TO KEEP.

For the requirements of a suburban resident we do not think we have any variety of fowl to equal the White Leghorn, or as a matter of fact any of the Leghorn family. It has been our experience they do well in confinement so long as scratching material under cover is provided for them to exercise their scratching propensities. Objection is raised to their flying propensities, but this need not be a barrier, for if even the runs are not covered over with wire netting, the simple process of cutting one wing so unbalances them that they could not, if they tried, fly over a five foot fence.

In erecting a fence to keep in fowls many make a mistake in running wooden rails along the top from post to post, to which they attach the wire walling, whereas if they would use cable wire instead and strain the walling to this cable by using lacing wire the inmates of the yard would not make any attempt to fly over; besides the cable wire is much better, being neater than unsightly wooden rails.

For a purely farmers' fowl, where a free run is obtainable, we consider Buff and White Rocks and some strains of Barred Rocks are as good as any, although as a general rule we consider all of the varieties of Rocks lay too small an egg for the food they consume, and are inclined to become too fat after their first season to rank in the first class as egg producers.

The Wyandotte family are an excellent all round breed, good layers of fair average sized eggs, and as a table fowl have very few equals, are great foragers, and hardy. Whites seem to have the call at present, and as a show fowl have become very popular, as is in evidence by the abnormal entries at most of our leading exhibitions in all sections of the country.—*Farm Poultry.*

The Horse.

NOTES.

In the March issue of *THE PLANTER* our esteemed correspondent, W. R. C., a well-known Virginian who breeds horses on his fine estate in Westmoreland county, takes me to task in a pleasant way because I have failed to lay sufficient stress on size in trotting stallions kept for stud purposes. I am glad to note the stand taken by our correspondent, which is pertinent, but really it seems the breed of trotting bred horses is yet in a formative state, and we can never be quite certain of results. Experience and judgment in mating count for much I admit, but even here results are oftentimes misleading and fall far short of the object sought, because any breed yet in the formative process does not produce true to a type. I have in mind several stallions possessing size with symmetrical form and speed, still it is rare indeed that you see one of their get to even compare with the sire. This may be in a measure accounted for by lack of qualities most desired on the maternal side, but with due consideration there the results so much sought for frequently do not obtain. My observation is that beauty and finish, also speed, follow certain lines with far greater uniformity than others, but when it comes to size, there is not only a greater uncertainty, but coarseness is more than likely to follow increased proportions. However, the general preference is for large horses, and the average farmer and breeder will do well to bear this in mind, and shape his course accordingly, being contented to cast his lot for drawing prizes in the lottery of breeding. Personally, my preference would be take chances with a well turned, sound—and remember, that I lay special stress on soundness—representative of a family that breed size, and if results were not satisfactory I should try to select another stallion without losing sight of my original purpose. But, to my mind, speed is really a secondary consideration to the average breeder and rather to be sought for by those possessing both means and inclination to develop it for racing.

the past few decades. I have no fault whatever to find with the gaited saddler, as he is suggestive of beauty of form, finish and other desirable qualities, but the law of demand creates a supply and for this reason the hunter and jumper has about superseded the gaited horse in this State and Virginia has come to be known as one of the principal markets of the world for breeding, rearing and developing the hunter, a type usually produced by crossing thoroughbred sires on large general purpose mares possessing muscular development and good, heavy bone.

Prospects seem bright for stallion owners in this section and all signs seem to indicate that a large number of mares will be bred. Kelly, 2:27, the bay stallion by Electioneer, dam famous thoroughbred Esther, dam of four in the list, by Express, in the stud of W. J. Carter, attracts attention wherever shown. Kelly's record does not even indicate his speed limit as he could trot a two minute gait while his full sister Expressive, 2:12½, was the greatest three year old trotting campaigner ever seen. She is 16.2 in height and the Esther family is one in which fine size and finish predominates. A number of choice mares have already been booked to Kelly and breeders will act wisely in considering his claims for patronage.

The bay pacing mare Joyful Maiden, 2:19½, by King Nutwood, owned by W. R. McComb, of the Union Stock Yards, has joined the stable of M. F. Hanson at Montezuma Farm, and will probably be raced again this season. Others in the same stable are the chestnut stallion Estuary, 2:19½, by Expedition, 2:15½; Zack, chestnut gelding, 5, by Sidney Prince, 2:21½, dam Thrift, dam of Admiral, 2:17½, by Meander; Dr. Floyd, bay gelding, 6, by Sidney Prince, dam, the dam of Albert C. 2:16½, by Clay, and several well bred youngsters. Hanson hails from Montague, Michigan, but during his residence of five years in Virginia he has made numbers of friends by his pleasant manners and quiet, unpretentious manners, and quite a fair share of ability as a trainer, driver and conditioner, too, he has shown himself the possessor of by racing and marking such horses as Clarion, 2:15½; Little Guy, 2:17½; Forenev, 2:19½; Estuary, 2:19½; News Boy, 2:21½; Sidney Prince, 2:21½, and J. R., 2:24½, and these with material none too promising to work upon in this State.

Commenting further "W. R. C." remarks that no attention is paid to the American saddle horse in these columns, in reply to which I may state that this breed seems to flourish nowhere else as in Kentucky and some parts of Tennessee, while a few are bred in other Southern States, but here in Virginia the type has been mostly superseded by hunters and jumpers, which are required to walk, trot and gallop, and show no tendency to mix gaits or show the running walk, the latter a gait so popular until within

BROAD ROCK.

Miscellaneous.

VIRGINIA POLYTECHNIC INSTITUTE.

Editor Southern Planter:

At this writing I notice that the Legislature has just made an appropriation of \$165,000 for the above institute. This is a good appropriation and that is what I have advocated in previous issues of the *PLANTER* and begged the farmers urge their representatives to make. • Now it is "up to the Board" to do the "proper thing" for the agricultural side of this institution which has been so far behind the times. I fear the Board "needs a little reminder." A large part of the small equipment the agricultural department now has is used in producing "Mess Hall supplies" and, in a previous request to the Legislature, the Board only asked for \$20,000 for housing and equipping a building for agricultural, horticultural and veterinary work. When it is remembered that both teaching and scientific investigation are to be carried on in such a building, such a sum is entirely too small to meet requirements. I asked the president of the Board to ask for more money for such an equipment—to make it at least \$50,000. I also asked him to provide for a short winter course in agriculture and horticulture, to have stock judging, grain judging and plant breeding taught on a broader scale. He assured me he would do so if they could get a good appropriation. Now the appropriation has been made, will we get these things? Is Virginia to have an agricultural equipment at the institution of which Virginia farmers will justly feel proud? The Legislature has done its duty. Now, let those who have charge of this money do theirs for the agricultural side of this institution, which the editor of the *PLANTER* truthfully stated in the March issue was far behind the mechanical side of the institute. We like very much to see large numbers of students attend the college but this fact in itself counts for but little unless the standard of instruction is also high and proper facilities are afforded for advanced teaching. No third or second grade equipment for agricultural education and training is good enough for Virginia. She needs the best and the appropriation her Legislature has given will go a long way towards securing this if the Board will only use a large part for that purpose. Not only is the equipment for teaching far behind, but several departments of the Experiment Station need strengthening very much. What I have written is, of course, in the nature of a friendly suggestion. Being a graduate of the institute and a farmer by calling and practice,

makes me feel a deep interest in the advancement of the agriculture of the State and this must largely come from the instruction at the Farmers' College.
Montgomery Co., Va. R. H. PRICE.

EASTERN AND WESTERN METHODS.

Editor Southern Planter:

You may have wondered how it is possible for Western farmers to raise corn to profit at 25 cents per bushel, shelled and delivered in the elevators, and hay at from \$4 to \$6 per ton, baled. Perhaps you have tried to reason this thing out and have come to the conclusion that their land is so much better.

Is that the only reason? Supposing you had the use of good land, land that would with proper cultivation yield 8 to 10 barrels per acre, how much would the work of preparing the field, planting, cultivating, harvesting, shelling and hauling to station cost you, figuring your own time the same as you would pay your hired help? How much profit would you make at 25 cents per bushel?

Good soil is one of the causes of cheap corn out West but by no means the only one. Corn is handled but once by hand. It is husked direct from the standing stalks into the wagon, two rows at a time, while the team walks slowly along. Husking 50 bushels per day is considered a fair day's work for a man and his team, though some men will husk as much as a hundred. On the side opposite to the husker, high side-boards are clamped to the wagon box to prevent ears from being thrown over. The husks are left on the stalks.

At noon the husker drives home with 50 bushels in ears piled high against the sideboard, stopping alongside of the corn crib. In the wagon, resting on the endgate and slanting to the bottom of the box is the scoop board, so that a large scoop shovel may be used, and in a few minutes the corn is scooped into the crib. In the evening he repeats the operation.

When the corn is to be marketed, a few lower slats of the crib are loosened, a few smooth planks are laid down for easy shoveling, the large power sheller is backed to this opening and two men are kept busy shoveling the ears into the box of the hopper. In corn shelling time neighbors help each other as in threshing.

The spout of the sheller is directed into a wagon and as soon as the wagon is filled—50 bushels of

shelled corn for a two-horse load—it is driven to the station. Without stopping the sheller, the spout is switched to another empty wagon and one wagon after another drives up to be filled and start to the station. If not enough neighbors have come to help in hauling, a large bin is made on the floor and the corn is spouted into it when no empty wagon is at hand.

Arriving at the station the wagon stops on the scale, the weight is taken by the dealer, the hands of the scale being at the window in plain sight of the driver on his seat so that no time is lost. Next he drives into the elevator building, stopping on a platform, the rear part of which is lowered by machinery so that the load is dumped into a chute below. For that reason wagons with loose tongues are used exclusively. An elevator employee replaces the end-gate that the driver may not have to leave his seat. Machinery later on elevates the corn into high bins from which it is spouted directly into the cars on the side-track below. At every railroad station, however small, there is an enormous elevator, sometimes two or more.

How often has the corn been handled by hand? Once when husking. Once with the shovel when unloading at the crib and once when shoveling into the sheller. One thousand five hundred bushels or more, at 40 bushels to the acre the entire crop from nearly 40 acres, are shelled in a day. How does his compare with Eastern methods, where the corn is handled again and again by hand, sometimes even "toted" in hampers, etc.

Now as to the work in the field. The Western farmer owning (or renting 80 acres at a rental of \$4 per acre) will probably have 40 or more acres in corn, probably ten acres in small grain and the rest in hay and pasture. He will work this farm without help, except in harvest time. Some men will work 60 acres of corn successfully. But how? Well, they work perhaps not much harder than Virginia farmers but they make better use of their time by using modern double row planters, double cultivators, etc., enabling them to cultivate the corn three to five times, by beginning as soon as the sprouts show above ground. It is true that they are not often interrupted in their work by rains.

The Western farmer keeps stock not because of the manure, for often it is scarcely preserved, but because it is usually more profitable to feed the corn than to sell it. I am not prepared to say that feeding 50 cent corn in Virginia is profitable but it is surely more profitable to raise 50 bushels of corn to the acre on manured land than 15 bushels on a farm where no stock is kept. If the Western farmer can

make money by raising 25 cent corn on land worth \$100 we Virginians can do better by raising 50 bushels of 50 cents corn on \$10 or \$20 land by making the land rich enough.

Haying in the West is done with a sweep-rake and a stacker. Two men and two "kids" will harvest 10 acres per day. One boy drives the gleaner, a man with two horses hitched to the sweep-rake drags the hay from the wind rows to the stack where it is dumped onto the stacker operated by a horse. Only the man on top of the stack uses a fork. Many farmers make these implements themselves though they can be bought in implement stores. A sweep rake may be made without wheels.

Baling is probably also done cheaper out West though the labor is cheaper in Virginia. Queer, isn't it? Well, if the man with the baler could move right from one field into the adjoining, keeping steady at work, week after week, perhaps for months in one neighborhood, where farmers keep every foot of their lands in productive use, they can afford to do the work for less than in sections where nine-tenths of the country is woods, brush, broom straw or "resting" with a crop of weeds and where hay is grown in patches instead of good-sized fields.

The greatest obstacle in the way of the adoption of modern methods in the South is the negro. The Southern planter balks at the proposition to pay \$200 or more per year with a decent room and something else besides "corn meal, pork and herring rations" to a competent farm hand when George Washington Jefferson, colored, is satisfied with \$9 per month. Yet it is but a question of time when our darkies will have to give way to competent white men as regular farm help and when meat stock will be substituted for the scrub Jersey and for scrub sheep. N.

Hanover Co., Va.

Beef Cattle for Southside Virginia.

Please tell me what breed of cattle you consider best adapted for this part of the State. Our pasture is all wild land, but affords excellent grazing and a very large range. Would the Hereford or Angus do well? Which of these two breeds do you consider best?

SUBSCRIBER.

Mecklenburg Co., Va.

None of the heavy breeds of cattle are adapted for the thin lands of Southside Virginia until they have been improved. The feed is not good enough for them. We think the Red Polls are best adapted for this section in its present condition. Next to these we would select the Angus breed. Herefords and Shorthorns will do well when the land has been improved.—Ed.

THE

Southern Planter

PUBLISHED BY

THE SOUTHERN PLANTER PUBLISHING CO'Y.

RICHMOND, VA.

ISSUED ON 1ST OF EACH MONTH.

J. F. JACKSON,

Editor and General Manager.

B. MORGAN SHEPHERD,

BUSINESS MANAGER.

TERMS FOR ADVERTISING.

Rate card furnished on application.

TERMS FOR SUBSCRIPTION.

THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at \$6c. per annum; all foreign countries and the city of Richmond, Va.

ALWAYS GIVE THE NAME of the Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

THE DATE ON YOUR LABEL shows to what time your subscription is paid.

REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known, Particulars of Experiments tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished otherwise papers until after they have appeared in our columns. Selected matter will be returned on receipt of postage.

SUBSCRIBERS failing to receive their paper promptly and regularly, will confer a favor by reporting the fact at once.

Address THE SOUTHERN PLANTER, RICHMOND, VA.

Entered at the Post-office, Richmond, Va., as second-class matter.

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PUBLISHER'S NOTES.

TO ADVERTISERS.

We wish to impress upon our advertisers the necessity of having ALL advertisements, no matter whether new or change of copy, in our office by the 24th of each month. Advertising forms close on the 25th. We are compelled to leave a number of advertisements out of each issue because they are received too late.

Subscription Offer.

Should any person, who is not a subscriber to the SOUTHERN PLANTER, read this notice, we beg to ask that he will take it as a personal one to himself. We want him to join the ever-increasing army of readers of the SOUTHERN PLANTER, and to that end will accept a trial subscription for the remaining numbers of this year for 25c. We hope he will find this issue so valuable and interesting that he will want to have this magazine come to him regularly. Send remittance in the most convenient form.

WITH THE ADVERTISERS.

Laidlaw, Mackill & Co. have a half page ad elsewhere in this issue, offering their well known "Thistle" brand of sheep dip and cattle wash. We would suggest to our readers that they look up this ad.

Look up the engine ad of Mr. A. Metz, of New York City.

The Baltimore Coopers Co. is offering all kinds of slack and tight coopersage. Look up the ad.

Mr. E. F. Schlichter is advertising his well known Philadelphia silo in another column.

The Ohio Vehicle & Harness Co. is offering buggies at bargain prices.

The Johnson Harvester Co. is offering its Continental Disc Cultivator to our readers. The Watt Plow Co., Richmond, Va., are the local agents.

Another new advertiser in this issue is Mr. B. E. Watson, who offers Duroc Jersey and Berkshire hogs of the finest breeding.

The Racket Farm has an interesting poultry and stock card in another column.

Maj. A. R. Venable is offering some choice Jerseys at very low prices.

The Southern Railway Supply Co. is advertising all kinds of roofing on another page. We suggest that any of

If you want Clean Fields and Clean Crops, Sow

Wood's Trade Mark

Clover and Grass Seeds.

They are the best and cleanest qualities that it is possible to procure—free from plantain, daisy, wild carrot and other objectionable weed seeds, often found in ordinary clover and grass seeds.

Wood's Seed Book for 1904

gives the most complete information and up-to-date experience about all Grasses and Clovers. Mailed free on request. Write for Seed Book and special Price List of Grass and Clover Seeds.

T. W. WOOD & SONS, Seedsmen,
RICHMOND, - VIRGINIA.

THE IMPROVED
SCREW STUMP PULLER
Write for Prices.



Chamberlin Mfg. Co., Olean, N. Y., U. S. A.

HERCULES STUMP PULLER



Clears an acre of heavy timber land each day. Clears all stumps in a circle of 160 ft. without moving or changing machine. Strongest, most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centerville, Iowa.

**WARRINER'S
CHAIN HANCHION.
STANCHION.
CLEAN, SAFE,
COMFORTABLE.**

MADE BY W.B. CRUMB, Forestville, Conn.

our readers, who may be interested, refer to the ad, fill out the measurements, and mail to this company promptly.

Janney Bros. desire to purchase some grade Shorthorn heifers. Look up the ad.

The Oconeechee Farm, Durham, N. C., has an attractive ad elsewhere. The offering consists of Shetland ponies, Berkshire, Poland China, Essex and Yorkshire hogs, Shropshire and Dorset sheep, Jersey cattle, and all kinds of fancy poultry.

Note the change in the Rosemont Farm advertisement in this issue.

M. B. Rowe & Co. have a seasonable card in this number.

The Grove Farm offers Holstein Friesian cattle and Dorset sheep in this issue.

The Milne Mfg. Co. has something interesting to say about its stump and tree pullers.

Don't fail to read the ad of Studebaker Bros. on another page.

Look up the ad of the International Stock Food Co.

TOTAL OUTPUT OF PETROLEUM SINCE 1859.

It is not yet half a century since Colonel Drake discovered petroleum on the waters of Oil Creek, near Titusville, Pa. Men thought themselves civilized in those days, but had no notion that petroleum was among the necessities of a polite existence. A tallow dip or a wax candle illuminated sufficiently the night's activities, and a blazing logwood fire left no room for desire of another kind of heater. Mutton tallow answered for chapped hands and bear's grease or goose oil did well enough for pomade. Petroleum might have been counted a superfluity, but instead it sprang into immediate favor, and now its list of popular by-products grows longer every year. The total production of crude petroleum from 1859 to the end of 1902 has been no less than 1,165,280,727 barrels. That means that if two and one-half feet were allowed for the height of a barrel, and if these barrels filled with all the domestic oil that has been produced were laid so that their heads touched, they would encircle the earth two and one-fourth times.

Of this total production, Pennsylvania and New York produced 53.9 per cent., Ohio 24.3 per cent., West Virginia 11.3 per cent., Indiana 3.9 per cent., California 3.6 per cent., Texas, 2.1 per cent., leaving 9 per cent. to be supplied by the States of Kansas, Colorado, Louisiana, Illinois, Missouri, Indian Territory, Wyoming, Michigan, and Oklahoma Territory.

The above figures are taken from Mr. F. H. Oliphant's report on "The Production of Petroleum in 1902," soon to be published by the United States Geological Survey in its annual volume of Mineral Resources.

Local agencies and complete repair stocks everywhere

PLAIN HARVESTERS

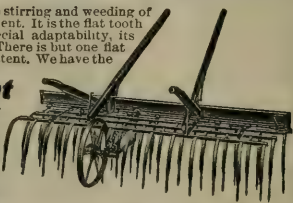
International Harvester Co. of America, Chicago, U.S.A.

HALLOCK Combined Weeder and Seeder

The farmer who knows the value of light surface stirring and weeding of growing crops recognizes in this the prize implement. It is the flat tooth cultivator. You know what that means—its special adaptability, its service, its results. Increases crop 25% to 40%. There is but one flat tooth—the only satisfactory tooth—the Hallock patent. We have the right to manufacture it.

The Seeder Attachment

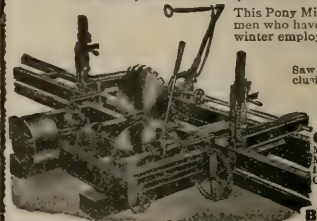
means getting a good stand of clover, timothy and other grasses. It sows them all, and its positive force feed can be adjusted to sow accurately from 2 to 18 quarts per acre. Especially valuable in the wheat fields, as the surface cultivation benefits the wheat and at the same time the grass seed is sown and lightly covered. The seeder can be readily attached to or detached from the weeder frame. Either is sold separately when desired. Catalogue is free. Don't fail to write for free book of field scenes, showing halftones from photographs of the weeder in actual use.



Keystone Farm Machine Co., 1554 North Beaver Street, York, Pa.

DeLoach Saw Mill

Special for the Man with Light Power and Heavy Timber.
Cuts 2,000 to 10,000 Feet per Day. 4 to 20 h. p.



This Pony Mill is especially adapted to the use of threshermen who have engines, enabling them to secure profitable all winter employment when the threshing season is over.

We Make All Styles

Saw mills from smallest to largest capacity. A great exclusive feature in the DeLoach Variable Friction Drive.

Our advantages in cheap Southern labor and superior and low-priced lumber, iron and steel enable us to make the best saw mills for least money of any manufacturer in the world.

Our Mill Machinery Line includes Shingle Mills, Planers, Edgers, Trimmers, Stave Mills, Lath Mills, Water Wheels, Portable Grinding Mills, Shafting, etc. Ask for Saw Mill and General Machinery Catalogue. Mailed free for the asking.

DeLoach Mill Mfg. Co.,
Box 600 Atlanta, Ga.

Steam is the Best

After all, the best, most reliable, most efficient and in the end the cheapest power is steam. Wind is whimsical and unreliable, water power can only be used a few months each year at best, gasoline power is out of order more than half the time and electric current itself depends on steam power. The sure power is a



Leffel Engine and Boiler.

This outfit is detached—boiler mounted on skids and engine on separate base. Engine can go on either side of boiler and any reasonable distance away. Large or small pulley and belt on either end of engine shaft. A highly efficient, quick steaming, high power developing outfit. Suits to any work, any fuel, anywhere. We make many other kinds and styles of Leffel engines and boilers. Book "Power Economy and Efficiency," free.

JAMES LEFFEL & CO., Box 134, Springfield, O.

Clark's Tools for Large Hay Crops



Clark's Rev. Bush Plow and Harrow cuts a track 5 ft. wide, 1 ft. deep. Connects the sub-soil water. It is an excellent machine for covering in sugar cane. Strength guaranteed. Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.

Clark's Double Action Cutaway Harrow moves 15,000 tons of earth in a day. Send for Circulars.

Clark's Rev. Sulky Disc Plow

Made single or double. One or two furrows five to ten inches deep: 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charlock, hard back, sunflower, milk weed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seedling to grass.

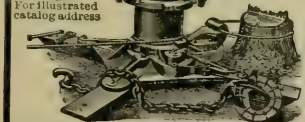
THE CUTAWAY HARROW CO.,
Higginum, Ct., U. S. A.

HENCH'S 20th Century Steel Ball Coupling Cultivator

With Double Row Corn Planter and Fertilizer Attachment Complete on One Machine. Parallel beam movement, pivoted axle with lateral beam movement in connection with the movable spikes, or either independent of each other. Centre lever for spreading and closing shovel gauges. The most complete cultivator on the market. Introduce them for next season. The HENCH & DROMGOLD CO. Mrs., York, Pa.

Stump and Tree Pullers

Self-anchoring and Stump-anchored. Something new. Pull an ordinary stump in 1/2 minutes, 1 to 5 acres at a pull. Nine different sizes to suit all kinds of clearings. For illustrated catalog address



Milne Mfg. Co. 834 Ninth St., Monmouth, Ill.

FAMILY SCALE FOR \$1.25

This scale is fitted complete with pan and tin scoop and is guaranteed to be correct. Just the thing for weighing tea, spices, meats, groceries, etc. Will pay for itself in a very short time. We sell more good goods for less money than any other house in the U. S. Write today for our Free Ills. House-keeper's Guide.

STEWART BROS.

418 North High Street. Columbus, Ohio.

IN THE TWINKLE OF AN EYE.

It is more than probable that every reader of this paper has heard of the wonderfully disastrous fire which so recently burned the heart out of the city of Baltimore. Unless you just happened to know some one who was living or doing business in Baltimore it is likely that you gave the fire hardly more than a passing thought. But what do you think it means to the people of Baltimore? What do you think it means, for instance, to J. Bolgiano & Sons, the seedsmen, who have for eighty-seven years been doing business in the fated city? In all that long period they have never before suffered from fire. Indeed, they felt perfectly safe this time, for when the fire first started it was more than ten city squares away from them. Later, and when they thought they were endangered—though the fire was still six squares from them—they employed two hundred hands and fifty drays and began the removal of their large retail seed stock to one of their warehouses a long distance from the fire, and where they felt everything would be safe. It transpired, however, that by a shifting of the winds the fire ate relentlessly away until both retail stores, offices, packing rooms and warehouses were destroyed. Bolgianos made a brave fight to save the orders and seeds for their thousands of customers, but fate was against them. The orders already booked and the lists of names of thousands of customers all over the world were lost in the twinkle of an eye.

With absolutely nothing to work with, nothing to aid them except their excellent reputation, the Bolgianos have set to work with firm hands and brave hearts to rebuild their business. They have already laid in a large stock of the very best farm and garden seeds, notwithstanding the short seed crop of the past season, and will be able to fill orders as usual. Since all their advance orders and names of customers are burned, they have very little to begin on. Will those of our readers who ordered from Bolgiano & Sons, write a postal card at once, simply giving your name and post-office address? Do this whether you are an old or new customer of theirs. Send them your name anyhow so that they may send you their catalogue another season. Simply address the card to J. Bolgiano & Sons, Baltimore, Md.

USED CAUSTIC BALSAM FOR SCRATCHES.

Woolsey, Va., Jan. 27, 1904.

The Lawrence-Williams Co., Cleveland, Ohio:

I have used your GOMBAULT'S CAUSTIC BALSAM for enlargements on horses, caused by kicks, etc., and I think it a great remedy. It never does any harm. I used it once on a horse for scratches and it worked wonders.

H. F. LYNN, JR.

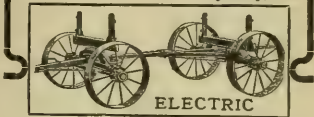
YOU Can Save a Lot of Work! Can Save a Lot of Money! Can Increase Your Comforts! Can Increase Your Profits!

If you are interested in those things we'll like to send you our new book about

ELECTRIC STEEL Wheels and the ELECTRIC Handy Wagon

More than a million and a quarter of them are in use and several hundred thousand farmers say that they are the best investment they ever made. They'll save you more money, more work, give better service and greater satisfaction than any other metal wheel made—because They're Made Better. By every test they are the best. Spokes unfold to the hub. If they work loose, your money back, don't buy wheels nor wagon until you read our book. It may save you several dollars and it's free.

ELECTRIC WHEEL CO.,
Box 148 Quincy, Ills.



GOOD TOP BUGGIES \$28.35.

Two Years Guarantee

COLUMBUS QUEEN

\$49.50.

On 30 Days Free Trial

Catalogue Free.

THE OHIO VEHICLE & HARNESS CO., Columbus, O.

WE'LL PAY THE FREIGHT and send 4 Buggy Wheels, Steel Tire on, \$7.25 With Rubber Tires, \$15.00, 1 mfg. wheels 1/2 to 4 in. tread. Top Buggies, \$27.50; Harness, \$3.00. Write for catalogue. Learn how to buy reliable and safe direct. Wagon Umbrella FREE. W. V. BOOB, Cincinnati, O.

ONE MAN SAW

THE CHAMPION

one man saw save time and double the output. ONE man can saw over ONE cord per hour. Highest operator. Formable bulk of power. Cuts any size timber, standing or down. Weighs 40 lbs. One steel blade; ash frame. Saves money—labor. Circular free.

FAMOUS MFG CO.
722 Railroad Ave.
EASTON, OHIO
INDIANA

Save Cream

Save much on the cost, save labor of cleaning and operating by buying the

AMERICAN CREAM SEPARATOR.

We send to you to put it on trial. It will prove these things to any man's satisfaction. You should know that it. Ask for the free catalogue.

American Separator Co. Box 1076, Bainbridge, N.Y.

CORN PLANTING

time will soon be here. To get the biggest crop you want a planter that will do the work right. "The Hamilton" Corn Planter is the best machine on earth for insuring increased corn crop. Write for catalogue and price.

THE H. P. DEUSCHER CO.,
Hamilton, Ohio, Manufacturers.

Mention the SOUTHERN PLANTER in writing.

WOODEN TANKS

EVERY SIZE AND SHAPE.

Wooden and Iron Towers to Carry Tanks,
Manufacturers of Barrels, Kegs, etc.

DEALERS IN

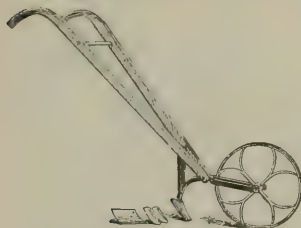
OLD BARRELS, STAVES AND LUMBER.

BEST WORK. LOWEST PRICES.

For information address

Baltimore Cooperage Co.,
Dept. A
Baltimore, Md.

\$1.75



NOW BUYS THIS NEW

Southern Garden Hoe and Cultivator.

Send stamp for particulars and how you can earn one. Remit by Express or P. O. Money Order or Registered Mail. AGENTS WANTED. Address R. M. YORK, Liberty, N. C.

SILOS

And the only Patent Roof

THE "PHILADELPHIA"

E. F. SCHLICHTER
1910 Market St. PHILADELPHIA, PA.
Also made by the Duplex Manufacturing Co., South Superior, Wis.



The Only Cow Food

Which removes Garlic, Onion and Weed Taint from Milk. Send for circular to

VA. CATTLE FOOD CO.

DANVILLE, VIRGINIA.

MODERN CANNER FOR \$25

Complete farm canning plant, including 100 cans. Write to-day. MODERN CANNER CO., Bridgeport, Alabama.

MOVING THE CROPS.

Moving the crops is a phrase that is rapidly losing its terror for the money kings of Wall street.

One of the most encouraging signs of our national prosperity last fall was the fact that the moving of crops did not cause the usual stringency of money on Wall street. Why? Because the farmer had been so prosperous that he had money in the bank and did not require Eastern capital to move his crops. This prosperity of the farmer is due to a characteristic trait of the American citizen. He is, above all things, progressive and industrious. In the farmer this is exemplified by his willingness to use the improved machinery which the American manufacturer places at his disposal. Vast sums of money and years of experimenting have made the harvesting machines perfect in construction and mechanism. They accomplish the maximum of work with a minimum expenditure of labor on the part of the operator. They are "light running," and at the same time strong, durable and capable of standing hard knocks.

BARGAINS IN JACKS.

We beg to call your attention to the advertisement of Baker's Jack Farm elsewhere in this issue. For 60 days this firm is offering jacks at half price and in addition will pay railroad fare of every purchaser. Mr. John Baker, the manager, advises us that he is making room for a new importation.

CATTLE STANCHIONS.

Any party interested in cattle stanchions will do well to investigate the Warriner Chain Hanging Cattle Stanchion, offered by Mr. Wallace B. Crumb, Forestville, Conn., in another column. He will be very pleased to mail all enquirers a copy of a neat little booklet describing same.

A school boy in Jewell City, Mo., was assigned to prepare an essay on the subject of "Ducks," and this is what he wrote: "The duck is a low, heavy set bird, composed mostly of meat and feathers. He is a mighty poor singer, having a hoarse voice caused by getting so many frogs in his neck. He likes the water, and carries a toy balloon in his stomach to keep him from sinking. The duck has only two legs, and they are set so far back on his running gears by nature that she came purty near missing his body. Some ducks when they get big have curls on their tails, and are called drakes. Drakes don't have to set or hatch, but just loaf, go swimming and eat. If I was to be a duck, I'd rather be a drake every time."

How to defeat a drought at planting time. See Masters Planter Co.'s ad.

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We know its merits from practical experience. Having used almost all known pumps in our own orchards, consequently we are able to judge of its superiority over all others. It is the most durable pump made. The easiest working pump; no stuffing boxes to look after. The handle is adjustable to suit the height of the operator. The agitator is a simple, direct motion, and keeps the solution thoroughly mixed. A pressure of 150 to 200 pounds can be easily obtained. Hand and Gear Driven Sprayers a specialty. Patented and manufactured by LATHAM & CO.,

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Large fully illustrated Catalogue and Treatise on Spraying—FREE.

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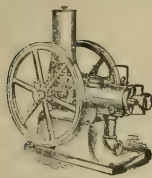
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Most Economical and Safest Power known.

Runs with common Distillate or Fuel Oil. Why pay an enormous price for gasoline when you can operate a M. & W. engine on fuel costing 5c. per gallon?

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Sizes from 1 to 60 H. P.

Highest Award for Direct Coupled Kerosene Engine and Dynamo, Paris Exposition, 1900; Gold Medal, Pan-American Exposition, 1901; Gold Medal, Charleston, S. C., Exposition, 1902.

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Portable Outfits—Dynos—Flarine Engines.

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Are you satisfied with it? Do you have enough?

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WITH THE MOST MODERN IMPROVED MACHINERY.

Sparkling Artesian Well Water Possible. You can have it Absolutely Pure and Your Own. Surface and Reservoir Water is more or less polluted.

I Guarantee First Class Work and Rapid Execution of Contract.

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The most successful money-making machines ever made. Also machines for boring wells with augers by horse power. Write us if you mean business.

Loomis Machine Co., Tiffin, Ohio.

Make Your Own Fertilizer

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Wilson's Phosphate Mills

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IMPROVED THOUSANDS IN USE.

Ask your hardware dealer for them or write E. H. BROWN MFG. CO., DECATUR, ILL.

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ECONOMY.

There seems to be little possibility, at any rate not any immediate possibility, that a substitute for horse power in the operation of farm machines, will be adopted by modern farmers in their field work. The horse still pulls the binder, the mower, the reaper; in fact, is indispensable in grain fields the world over. Because of his general usefulness and great capacity for work, the horse is given much consideration and usually the best care by the considerate farmer. The far-seeing, practical farmer of today believes it will inure to his own benefit to take the best care of his field power. Real economy is to get the most actual work out of a horse for the longest possible period of time. The McCormick Harvesters are known to be remarkably easy on the horses, and thousands of farmers have purchased O. K. machines because they knew it meant the saving of their horses.

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An article in The New York Medical Journal says: "Antikamnia Tablets have been used with very favorable results in headache, neuralgia, influenza and various nerve disorders. No family should be without this wonderful pain reliever. Dr. Caleb Lyon, of Rossville, N. Y., aptly expresses himself, briefly, as follows: 'In my practice Antikamnia Tablets accompany the maid from her virgin coo to her lying-in chamber, assuaging the perplexities of maidenhood and easing the trials of maternity with most gratifying results.' Two tablets for an adult is the proper dose. They can be obtained in any quantity from your family drug store."

Editor Southern Planter:

The Olives Pride, the new strawberry I introduced last season, has proved a wonder. A seedling of Crescent, but earlier than Crescent. It sold at Marion Station in the berry season, 1903, for \$5 for 32 quart crate, when the choice Hoffmans sold at \$2.50 for 32 quart crate. The Hoffman is one of the best sellers and shippers we have at this point. Olives Pride blossoms perfectly, berries large, and holds its size well to the end. The plants are vigorous growers, producing a plenty of healthy plants. It is a beautiful, deep red flesh all through, and holds its color. It ripens its whole crop in a very short time. It has a large, double cap unexcelled in appearance when crated, flavor excellent. Its large stalks hold its large crop of fruit from the ground, therefore does not need any mulch. It was planted largely last season here for market purposes. Growers who want the earliest berry grown and a good cropper should try this one.

J. W. HALL.

Marion Station, Md.

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HAS BEEN FULLY TESTED AND FOUND SUPERIOR TO ALL OTHERS.

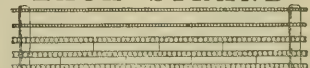
Will fit uneven ground without cutting. Every part can be stretched perfectly. Made of

high grade galvanized steel wire. All horizontal lines are cables, making it stronger than fence made at the bottom for small chicks. We also make extra heavy for gardens, lawns, etc. The largest poultry farms are using this fence—over 700 rods by Lakewood (N. Y.) Farm Co. We pay freight and satisfy every one or no sale. Can ship from N. Y., Chicago, or San Francisco. Write for free catalog of Farm, Lawn and Poultry Fencing.

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Heavy lateral wires, heavy hard steel stays, coiled spring wire, Sure Grip Lock. In strength, appearance and durability the Hard Steel Fence will be excelled. Write for catalogue and prices. THE HARD STEEL FENCE CO., Cuyahoga Falls, O.

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of Truss and Cable wire board fencing is composed of six thoroughly galvanized wires of superior quality, strength being equal to the combined tensile strength of all the wires. We make one strand 2 in. wide and one 4 in. wide. Write for free catalogue. The Truss & Cable Fence Co., 713 Cuyahoga Bldg., Cleveland, O.

Barbed Wire—\$2.35 Per 100 lbs.

smooth wire, Also galvanized smooth wire shorts, galvanized 2 to 16, \$1.40 per 100 pounds. Annealed wire in continuous lengths, \$16 to \$1.90 per 100 pounds. Wire staples, \$2.00 per 100 pounds. Tubular fence posts, \$30 each. Write for free catalogue, on building material, household goods, etc.

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**Genuine Spiral Spring Wire FENCES AND GATES**

If your dealer does not have our goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and security agency.

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**YOU CAN CLIMB OVER**

at 100 ft. or 10 ft. across a Page Fence and not deform or dismount. It's a safe difference. FAYE WOVEN WIRE FENCE CO., Adrian, Michigan.

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Best designs. Cheap as wood, 23 page Catalogue Free. Special Prices to Consumers and Builders. Address COILED SPRING FENCE CO., Box Q Wabash, Ind.



We'll tell you the cheapest and best way to build it. Of any kind of wire, for any requirement, with cheap labor, no machine and we'll tell you how to fix your old fence too. Write B.B. FENCE CO., 142 W. 3rd St., Peru, Ind.

It takes a good dealer to sell right lamp-chimneys when wrong ones pay so much better.

MACBETH.

The Index tells you, in ten minutes, all you need to know for comfort with lamps and the saving of chimney-money; sent free; do you want it?

MACBETH, Pittsburgh.

Italian Bees.

The kind that do the hustling. Guaranteed to work on Red Clover. Spring colonies furnished at \$5.00 each f. o. b. cars here, in your choice of Root or Jazzenbaker hives. The best comb honey hive on earth. Also Root's hives and supplies at Root's prices. Catalogue for the asking. Write me anything you wish to know about bees and their management.

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Gibson Liquid Lice Killer kills all lice and mites on Fowls, Cattle, Hogs and Horses. Easily applied and guaranteed to kill the lice or money refunded. Gallon can \$1.00. Liberal terms to dealers and agents. Write to-day for prices and circulars.

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Iron and paper roofing, nails, builder's hand ware, sash, doors, etc., carriage and wagon goods, paints and oils, cook and heating stoves, guns, pistols, rifles, "Robin Hood" loaded shells. Do you use any of the above? Write us.

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ZENNEUM AGENTS WANTED.

We wish to secure good, live stockmen to interest themselves in the sale of Zenneum. To those who can show plenty of good business for famous Zenneum Dip and Disinfectant, we will offer a proposition that is sure to be interesting and profitable. Address for particulars at once, ZENNER DISINFECTANT CO., 93 Bates St., Detroit, Mich.

IS A FARMER'S TIME VALUABLE?

Some folk seem to have a peculiar, and, for the greater part, wrong impression of the modern farmer, his life, habits and work. It is the belief of many that his time is neither occupied nor valuable; that it would make little difference to him whether his harvest were delayed a day, a week, or a month. From the farmer's view point, however, the question of time, especially in the busy harvest, is a vital one. One often hears expressions of dissatisfaction with certain lines of farm machines because of the delay caused in keeping them in proper repair during the busy season. Milwaukee Harvesting machines are honestly constructed and bear the reputation of doing their work well with little repair expense and causing a minimum amount of delay during the busy harvest season.

EMILY'S CHARGE.

(A serial tale by Mary Washington.)

CHAPTER X.

It is now time we were having a glimpse of Lucy Gordon, to do which we must carry our readers back to the time immediately following her father's death, when she went to Georgetown to spend a year with her aunt. Lucy, as we have said before, had been educated at the convent in Georgetown, and she had contracted a strong bent towards the Roman Catholic Church. Other influences being brought to bear, however, after she left school, this feeling lay dormant for several years. It revived, however, in full force when she went back to Georgetown and found herself surrounded by Roman Catholic influences, both at home and abroad, her aunt being a devout member of that Church, and before the lapse of many months, she had become a zealous convert and had made up her mind to formally unite herself with the church. About the same time, a revolution of a different kind also took place in Lucy's affairs, or rather in her aunt's. This lady had been only in moderate circumstances when Lucy went to her, but after many weary years of litigation, she, at length gained a lawsuit, involving the sum of \$20,000, which put quite a new aspect on her affairs. Being childless, she now wished to formally adopt Lucy, in whom she felt an additional interest since the latter had become a convert to her Church. She made many a fine plan for Lucy's advantage and enjoyment, but always checked herself with a sigh, explaining, "But that unfortunate engagement of yours! That is a blockade to everything! How I wish you were well out of it! We could have such a delightful trip abroad. We could go to Rome and see the Pope and all the grand sights there, and go to Paris and all over the Continent."



Five Baskets or Three

A planter who can make five baskets of cotton where he formerly made but three, by simply Top Dressing his land with one hundred pounds, per acre, of

Nitrate of Soda

(The Standard Ammoniate)

is simply neglecting to reap full benefit from his soil if he does not use the Nitrate, for this result is within the reach of every Cotton Planter.

Equally profitable results may be obtained from corn, grass, tobacco or potatoes from fruits or garden products, in fact from anything that grows. "Food for Plants," and other valuable bulletins giving actual field trials with Nitrate of Soda at Agricultural Experiment Stations, are sent free to farmers. Send name and address on Post Card. William S. Myers, Director, 1240 John St., N. Y.



SAN JOSE SCALE

and other insects can be controlled by using

GOOD'S CAUSTIC POTASH WHALE OIL SOAP, No. 3.

It also prevents Curl Leaf. Endorsed by entomologists. This soap is a fertilizer as well as insecticide. 50 lb. kegs, \$2.50; 100 lb. kegs, \$4.60. Half barrels, 120 lbs., at \$3.50; per 100 lb. barrels, 125 lbs., at \$3.40. Large quantities, special rates. Send for circular.

939-41 N. Front St., JAMES GOOD, PHILADELPHIA, PA.

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Axle Grease

Best in the world.

Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand. Not affected by heat. Get the Genuine. FOR SALE BY ALL DEALERS.

Position Wanted.

Gentleman, 52, widower, no family. Thorough, practical farmer and stock man. Open for engagement as manager large grain and stock farm. Address BASIL CHAMPER, Southern Planter.

WANTED.

Practical dairyman, married preferred, wife to have charge of dairy. About 40 cows in herd. Write, stating wages wanted, giving references and experience. Address J. M. MacGREGOR, Miller School P. O., Va.

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Fitting Glasses for you. Big profits.
One-to-see FREE EYE BOOK
tells how. Write for it today.

JACKSONIAN OPTICAL COLLEGE, Dept. 2008, Jackson, Mich.

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CORRESPONDENCE SCHOOL, at Bradford, Pa., teaches Shorthand, Bookkeeping and Penmanship by mail. Write now.



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MEDICATED
SALT BRICK**

The only guaranteed Tonic, Blood Purifier, Kidney and Liver Regulator and aid of Digestion for all stock. A sure hit on worms. Ticks cannot live. No dosing, no drenching, and no waste of feed. Your horse his own doctor. Endorsed by thousands.

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**Lump
Jaw**

Save the animal—save your herd—cure every case of Lump Jaw. The disease is fatal in time, and it spreads. Only one way to cure it—use

Fleming's Lump Jaw Cure

No trouble—no rub. No risk—your money back if it ever fails. Used for seven years by nearly all the big stockmen. Free book tells you more.

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Once hard to cure—easy now. A 45-minute treatment does it. No other method so easy—no other method sure.

Fleming's Spavin and Ringbone Paste cures even the worst cases—none too old or bad. Money back if it ever fails. Free illustrated book about Lump Jaw, Spavin, Ringbone, Splint, Box Spavin and other stock ailments. Write for it.

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USE

**FOUTZ'S
HORSE
AND
CATTLE
POWDER**

A medicine which makes sick animals well, the diseased whole, the weak strong and the thin fat. It will restore lost Appetite, expel Worms and cure Chronic Cough, Heaves, Influenza, Distemper, Hie-bound, Indigestion, Constipation, Flatulency and All Stomach and Bowel trouble.

The finest of all animal vitalizers and tonics and the only one which increases the coefficient of digestibility of protein.

Get the Genuine or send for a Pamphlet No. 4 Free.
Sold by All Dealers.

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PRICE
25¢ per package
5 PKGS. \$1.00
12 PKGS. \$2.00
CHARGES PAID.



DEATH TO HEAVES
Guaranteed

NEWTON'S Heave, Cough, Dis-temper and Indigestion Cure.
A veterinary specific for wind, throat and stomach troubles. Strongly recommended. \$1.00 per can. Dealers. Mail or P. M. paid. The Newton Remedy Co., Toledo, Ohio.

This lady's opposition to the match had only sprung up only since her accession of fortune, now was her gravest objection to it that it interfered with their trip to Europe. She had objected to it for some time past on grounds both religious and secular. In the first place, Ellis was a poor young physician and not at all an ardent lover. Then it was against the principles and canons of the Roman Catholic Church for first cousins to marry. Of this point especially she made capital when Lucy was in all the fiery zeal of a new convert. "If you enter our Church, my dear," said her aunt, "as you propose doing soon, I do not see how you can do so without giving up Ellis Gordon. Not only is he your first cousin, and as such forbidden by our Church to be your husband. Besides that, he is a staunch Protestant, and might oppose you and make you very unhappy on account of your religion. Then, if children come of the marriage, what a wretched thing it would be for the parents to be at variance about their religious instruction."

The priest added his influence to her aunt's, and between them they carried their point. Lucy was of a flexible nature, and had loved Ellis more from habit and old associations than anything else. Under new and opposing influences, she suffered this affection to be gradually weakened and eradicated. She felt some suffering while this was being done, but in the zeal of her new conversion, and the bustle and excitement of preparing for their foreign trip, her thoughts were much diverted from Ellis, and before she had crossed the ocean, the wound was well healed over.

It was well for Lucy she did not have the humiliation of knowing with what heartfelt joy and relief Ellis received her letter dissolving their engagement. He felt like a prisoner brought forth from a dark, narrow cell into the glorious sunshine and fresh, bracing air.

"Did you ever reflect, reader, on the wonder and significance attached to a letter? A simple sheet of paper on which the pen has traced a few lines. A small, simple thing it seems to be when it is handed to us, and yet this trivial sheet of paper may change the whole current of our existence; may carry with it an absolute stroke of doom, may give sentence either of life or death, and after reading those lines, which it required only a few moments to trace or read, our life may never again, through time or eternity, be the same that it was before. So it was with this letter of Lucy's. No transformation, of which fairy books tell us, could have been more sudden and complete than the one which Ellis underwent, after reading this letter. His whole face and bearing and manner changed. In short, he seemed to wake again into life after a long trance.

Horse Owners! Use

GOMBAULT'S

**Caustic
Balsam**

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blomishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or bluish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circular.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.



**Don't
Waste
Your
Strength.
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**BAKER'S TRACELESS
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No whiffletrees—no traces. Fine for farm work. Has no equal for use in orchard, vineyard, garden, lumbering, etc. Easier on team. Write us now. Catalog free. Agents wanted.

B. F. BAKER CO., 236 Main St., Burt Hill, N. Y.

\$25,000,000 WASTED ANNUALLY BY FARMERS FOR WANT OF KNOWLEDGE

To put to use the odds and ends of their products. Millions of dollars are made annually by large manufacturing concerns in our cities from that source alone. You cannot do yourself justice without our assistance. For 25c we will send you six receipts, and if they don't earn you \$25.00 the first year, we will refund your money.

M. HURLEY, 47 Sidney St., Bangor, Me.

WANTED!

ALL KINDS OF
LIVE WILD BIRDS AND ANIMALS

Particularly Deer, Wild Turkeys, White Squirrels, Ducks, Swans, Bob White Quail, Grey Squirrels, Bear, Etc.

CECIL FRENCH,
718 Twelfth St. N. W., Washington, D. C.

SECRET

BENEVOLENT SOCIETY FOR FARMERS AND THEIR WIVES. Pays \$10 weekly salary, \$20 weekly accident and \$2,000 death benefit, and \$50 old age pension. Organizers wanted; good pay. **KNIGHTS OF AGRICULTURE,** Washington, D. C.

VIRGINIA DIVISION.
FARMER'S MUTUAL BENEFIT ASSOCIATION.
Chartered by State of Virginia.

A fire Insurance Association for farmers of Eastern Virginia.
Organized January 9, 1894. \$70,000 policies secured by real and personal property, estimated value, \$1,000,000. For further information address **CHAS. N. FRIEND, General Agent, Chester, Va.**

No More Blind Horses For Specific Ophthalmia, Moon Blindness and other sore eyes. **Barry Co., Iowa City, Ia.** have a sure cure.

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Garden and Farm Manual—Free

tells about the best seeds money can buy and shows photographs of what they produce.

Our Floracraft Seed Gardens and Trial Grounds insure to our customers vegetable and flower seeds of known vitality and purity. Our list of farm seeds is the most complete of any house in the U. S.

Austin's Colossal Yellow Dent Corn and Golden Fleece Oats are two most profitable field crops.

Enrich the soil by sowing Velvet Beans, Cow Peas, Winter Vetch or True Dwarf Essex Rape. Also good for fodder and hay.

JOHNSON & STOKES Dept. A.

"Seedmen to the Money-Makers"

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New Strawberries.

MARK HANNA. The most wonderful berry in cultivation: 1,000 bushels per acre.

THOMPSON's No. 2, largest firm fancy berry, and

THOMPSON's No. 3, a seedling of Lady, handsomer and firmer than parent. No one will grow Lady who can get No. 3.

150 Varieties, including Thompson's Earliest

Ripe here April 19th the last season. If you want the earliest plant them, Thompson's No. 2, a seedling of Lady. But superior in every way, beautiful color, immensely productive, firmer, best shipper ever put on the market. Thompson's new berries are acknowledged to lead all others.

Cabbage Plants, Tomato, 5,000 Hardy Monthly Rose, California Privet, Dahlias, Chrysanthemums. Send for my spring catalogue. MARK T. THOMPSON, Rio Vista, Va.

Premo Dewberry

The earliest and most productive blackberry variety. Very large, jet black, firm and solid. Grow ripens early. This is the berry to plant for profit. Write for prices and particulars. Myer & Son, Bridgeville Nurseries, Bridgeville, Del.

SEED CORN FOR SALE.

I have a nice lot of Hickory King Seed Corn for sale. Large deep grains. The corn for thin lands and droughty weather. 9c. per bushel here, sacks extra. C. S. TOWN-LEY, Red Hill, Va.

Hastily making preparations for his journey, he set out for Emily's home, for until he knew that he could win her, he could not enter on positive happiness, his present condition being only one of negative happiness. It was now a year since he had seen Emily, and the spring had returned with its sweet dream of hope and promise.

After Alice's marriage, Emily realized with a feeling of sadness that her sister and brother were independent of her care, the former entirely so, and Walter in a great measure, for though Emily could still add greatly to his comfort and happiness, the day was past in which he was dependent on her for maintenance and training. He had attained manhood, and was well established in right principles, and in habits of steadiness and industry. One evening, soon after Alice's marriage, as Emily was walking amongst the flower beds, she heard a footstep behind her, which she supposed to be Walter's. Turning around, however, she found herself confronted with Ellis Gordon. Our readers may suppose she was greatly startled, but she was not. The image of his face had been so constantly in her mind that it startled her but little to see it in reality. It seemed only like the harmonious continuation or fulfillment of her thoughts. Therefore she greeted him calmly enough, though beneath the surface ran a thrill of "such joy as mixes man with heaven."

It seemed a fitting time and place to tell of love when all the atmosphere was tremulous with new life and hope and joy, and on this sweet spring evening Ellis poured out his confession to Emily and read in her clear eyes what her lips faltered in avowing—that she loved him.

When Walter learned the state of the case, he experienced mingled fullness. He was fond of Dr. Gordon, and not unwilling to extend to him the right hand of fellowship, but he was still sore from Alice's departure, and when he thought of the prospect of Emily's leaving him in the lurch also, he looked at her with something of an "et tu Brute" expression of countenance, but finally breaking into a good humored smile, he declared that the only refuge was for him to follow suit, which, he gallantly added, he would be very willing to do whenever he could find any young woman to equal his sisters. Emily consoled him somewhat by telling him that Dr. Gordon expected to resume his former position at the Springs, so she would still be near him, a fact which was very soothing to Walter, and which served to fill up the measure of Emily's contentment.

I do not think we need any prophet to unfold to us the future of the young couple. From what I have already unfolded about them, and especially about Emily, our readers may form a

10,000 Plants for 16c

More gardens and farms are planted to Salzer's seeds than any other in America. I have been growing them for 25 years. We own and operate over 500 acres for the production of our warranted seeds. In order to induce you to try them, we make you the following unprecedented offer:

For 16 Cents Postpaid

1000 Early, Medium and Late Cabbages,
2000 Delicious Carrots,
2000 Blushing China Broccoli,
2000 Rich Nutty Lettuce,
1000 Splendid Onions,
1000 Rare Luscious Radishes,
1000 Gloriously Brilliant Flowers.

Above seven packages contain sufficient seed to grow 1000 plants, furnishing bushels of brilliant flowers and lots and lots of choice vegetables together with our great catalog, telling all about Flowers, Roses, Small Fruits, etc., all for 16c in stamps and this notice. Mammoth 160-page catalog alone, 4c. JOHN A. SALZER SEED CO., E. La Crosse, Wis.

Peach and Apple Trees,

'BONAVISTA NURSERIES, Greenwood, Va.

We offer a fine lot of choice trees for Fall and Spring planting

Our apple trees are the best—Wine Sap, Mammoth Black Twig, York Imperial and Albemarle Pippin, all perfect and well grown trees.

Our peach trees are the standard sorts, Stump, Elberta, Bileye's (Comet,) Wonderful, Champion, Globe, Piqueet's Late, Albright's Winter, Crawford E. & L., etc.

We send out none but good trees and have never had a complaint made by any purchaser of our stock. Order soon, especially Peaches, as good trees will be very scarce this season.

CHAS. F. HACKETT, Manager.

RELIABLE SEED

Select Sweet and Irish Potatoes, Artichokes, Field Corns, Cow Peas, Clover and Grass Seeds, Sorghum, Millets, Fodder Plants, Rape and all varieties of Garden and Flower Seed of the highest quality and germination. Write us for prices; samples mailed on request

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Albemarle Prolific SEED CORN

For 4 years past, the entire crop at Arrowhead farm has been sold for seed, and those who put off ordering until the last, could not be supplied. We have a fine crop for sale. Price, \$1.75 in small lots, half bushel, \$1.00; price, 65c. No smaller order shipped. If the land is good and properly prepared before planting, and properly worked after planting, over 100 bushels per acre should be the yield. More forage will be grown than from any other variety.

ARROWHEAD STOCK FARM Charlottesville Virginia.



The flavor of TOBACCO may be improved by the use of stable and rank organic manures.

Potash

in the form of sulphate produces an improved flavor and a good yield.

Tobacco must have Potash. Our little book, "Tobacco Culture," contains much valuable information, and every tobacco grower can obtain a copy free of charge by writing for it.

GERMAN KALI WORKS
New York, 93 Nassau Street, or
Atlanta, Ga., 321, So. Broad St.

FOR SALE

Selected Pride of York Seed Corn.

It grows well, matures early, weighs well, makes lots of good fodder.

J. TABB JANNEY, Van Clievesville, W. Va.

SAFONI SEED CORN

A beautiful white variety and a wonderful yielder: 2 to 4 large ears to a stalk; don't fail to try it.

HIGH GRADE RED POLL and Aberdeen-Angus Cattle, both sexes.—Address,

LOUIS B. GILLILAND, Jr., Clarksville, Va.

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VIRGINIA MAMMOTH, largest and most productive variety for table and stock. Cost nothing to grow in corn field, but price of seed, and greatly benefits corn by shading the roots. Splendid keeper. Fresh selected seed. 35c. pound delivered; 5 pounds or over, at 30c. E. C. BELLWOOD, R. F. D., No. 1, Manchester, Va.

ALFALFA

If you expect to sow Alfalfa, why not start right, by inoculating your soil with the Bacteria of Alfalfa, the presence of which, we are told by the scientists is necessary for the proper vitality of this, the most valuable forage plant.

2 bushel bags, \$1.00 F. O. B. Ewell's, Tenn from a plot showing nodules in great abundance. Address GEO. CAMPBELL BROWN, EWELL FARM, ... Spring Hill, Tenn.

CHICKS THAT LIVE

get strong and healthy—gain steadily in weight, are chicks hatched in Reliable Incubators.

The Reliable

provides automatically a constant current of wholesome, warm air at a uniform temperature—chicks pip, hatch and thrive under its nature-like conditions. Send 10 cents and get our 20th annual catalogue—full of poultry information. Reliable Incubator and Brooder Co., Box 5-11, Quincy, Ill.



general idea of their after life, which will only be the deepening and widening of the current of their past one. Doubtless cares and trials are ordained them, and yet we may safely predict that their life will be a happy and satisfying one, and that in loving companionship they will walk together through this world—

"Yoked in all exercise of noble use."
Finis.

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All the world loves a champion. It is natural to admire the brave, the strong and the successful, whether it be in the field of war, of sports, of art, or of literature.

Our readers will at once agree that the Champion line of harvesters have been well named. They are champions in every sense of the word. They have never been conquered in any field and are continually gaining in popularity.

The Champion Binders, Mowers, Reapers, Rakes and other harvesting machines are as perfect as time and money can make them. There is a satisfaction in using champion machines that cannot be measured in dollars and cents. It is the satisfaction caused by perfect confidence in knowing that your machinery can be depended upon.

EARLIEST GREEN ONIONS.

The John A. Salzer Seed Co., La Crosse, Wis., always have something new, something valuable. This year they offer among their new money making vegetables, an Earliest Green Eating Onion. It is a winner, Mr. Farmer. Try it for 1904.

Just send this notice and 10 cents in stamps to them and get sufficient Carrots, Celery, Onions, Lettuce, Cabbages, Radishes and Flower Seed to grow bushels of flowers and lots and lots of vegetables, together with their great catalog, which is sent you free.

Those who have used Potato Diggers will not need to be told of the tribulations resulting therefrom. The "Ideal" Potato Digger, Plow and Pulverizer offered this season by D. Y. Hallock & Sons, not only digs potatoes perfectly and leaves the ground in good shape, but it may be used to plow and pulverize the ground in the spring. It is plow and potato digger in one.

A New York lawyer tells the following story of an old darkey preacher in North Carolina, who prefaced the passing of the collection plate with: "Salvation's free, brethren, salvation's free! It don't cost nothin'! But we have to pay the freight on it. We will now pass aroun' the hat, an' collect the freight charges."

How to set tobacco plants so that they all grow and no blanks. Read Masters Planter Co.'s ad.

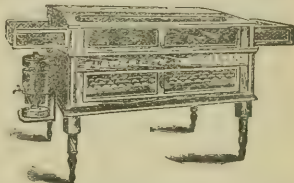
"He that loves a rosy cheek," uses only Williams' Shaving Soap.

Sold everywhere. Free trial sample for 2-cent stamp to pay postage.

Write for booklet "How to Shave."

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A certain and never failing Business Hatcher. Reasonable in price, best in quality, and always reliable. Thousands of these machines are in successful operation here at home and abroad.

Our handsome catalogue is free for the asking, send for a copy at once, before you select a machine and make a mistake. Address The Standard P. C. Incubator Co., Dept. 23, Rochester, N. Y. Mention this Journal.



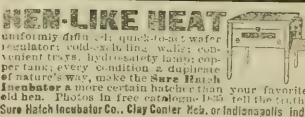
VICTOR BOOK

tells why our machine is preferred by users and all about artificial incubation. Thousands of these machines are in successful operation here at home and abroad. Our handsome catalogue is free for the asking, send for a copy at once, before you select a machine and make a mistake. Address The Standard P. C. Incubator Co., Dept. 23, Rochester, N. Y. Mention this Journal.



SPECIAL OFFER

Hot Water Incubator only \$10 and allow you to try it for 30 days Free. Tried and known to be perfect. Get a Catalog Free. CASH SUPPLY & REPO. Dept. H. KILGORE, ILL.



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uniformly distributed, quick-acting water regulator; cold-water heating, water convenient trays, hydrosafety lamps, copper tanks, every condition a duplicate of nature's way, make the Sure Hatch Incubator a more certain hatcher than your favorite old hen. Phone in free catalogue lists, tell the truth. Sure Hatch Incubator Co., Clay Center, Neb., or Indianapolis, Ind.

ANGORA GOATS are handsome, hardy and profitable. For large circular address E. W. COLE & CO., Big Clifty, Ky.

EGGS! EGGS!!

Barred Plymouth Rocks, White Wyandotte and S. C. B. Leghorn, M. Bronze Turkeys, crossed with wild. Book your orders now. Miss CLARA L. SMITH, Croxton, Caroline county, Va.

WANTED

25 to 50 GRADE DORSET EVES, medium price; also 1 each, good yearling DORSET and SOUTHDOWN Rams, registered, GRIMES, BROS., Lexington, N. C.

HOMES AND THE PLACE TO FIND THEM.

No place in the United States can a man do so well at farming, for the money invested, as in Virginia. Lands are cheap; climate good, and the best of markets close at hand. It is the State of all others, for a comfortable all the year round home. The James River Valley Colonization and Improvement Company offer superior advantages to land purchasers. For free 36 page land pamphlet, address

W. A. PARSONS, Vinita, Va.
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..To Homeseekers.. "THE BUSINESS OF FARMING IN VIRGINIA."

Is the title of a new pamphlet issued by the Norfolk and Western Railway Company. We will gladly mail you a copy.

W. B. BEVILL, PAUL SCHERER, Agt.,
G. P. A., Lands and Immigration,
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...FOR SALE...

FARMS AND SUBURBAN HOMES OF EVERY DESCRIPTION.

25, 50, 100, 500, 1,000 and 2,000 acre tracts. Some of these highly improved and convenient to schools, churches, steam and trolley lines. If you want to buy or sell a Virginia farm, see Hockaday & Casselman, Richmond, Va.

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I Can Sell Your Farm...

If located in one of these Virginia counties: Prince George, Chesterfield, King William, Gloucester, New Kent, King and Queen. Hanover. Send description, stating price.

JOHN JELINEK, 1116 Pine Alley,
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"In the Green Fields of Virginia."

Homes for ALL; Health for ALL; Happiness and Independence for ALL. ALL sizes of FARMS at corresponding prices, but all reasonable.

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FINE FARMS In the great fruit grain and stock section of VIRGINIA. Best climate and water in the U. S. Near great markets, with best educational advantages. For further information, address
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VIRGINIA FARMS

All prices and sizes. Free list on application
WM. B. PIZZINI CO., RICHMOND, VA.

VIRGINIA FARMS

\$3 PER ACRE AND UPWARDS.
EASY PAYMENTS. CATALOGUE FREE
GEO. E. CRAWFORD & CO., Richmond, Va.
Established 1875.

"WHEEL SENSE."

We reproduce herewith the cover page of a most attractive booklet just issued by the Electric Wheel Company, Box 146, Quincy, Ill., setting forth some good, practical sense on the subject of wagon wheels. It presents in a



forcible manner the advantages of the Electric Wheels, shows their strong, substantial construction, and presents the case in such a way that one can hardly fail to be convinced of their value. The proposition is really simple. A low wagon is certainly more easily loaded than a high wagon. A wide tire will not cut into fields and roads, rutting them up as does the narrow tire. A metal wheel made after the manner of the Electric certainly will outwear two or three wooden wheels and save you repair bills as long as they last. The average man who buys an Electric Wagon never fully appreciates its real value until after he has used it for a time; in other words, it always proves to be handier and more convenient than he had counted on. We hope our readers will send for the book and read the story for themselves.

MRS. LEA'S MILK AND BUTTER PURIFIER.

The Virginia Cattle Food Co., Danville, Va., resumes its advertising with us in this issue. The preparation which they make is guaranteed to remove all odor of garlic or weed from milk and butter. As this is the principal season of the year when these noxious weeds thrive in the pastures, our readers should lose no time in investigating the merits of this preparation.

Mention the SOUTHERN PLANTER in writing.

Agents for

"Monarch Pats"

Best \$3.50 Shoes

In the World.

\$10.75 will do wonders in clothing buying at this store. \$12.50, of course bids for better. The former commands a suit of clothes that many stores will have trouble bettering at \$13.50. The latter brings you in contact with garments that really would not be high prices at \$16.50. And remember, all is newness. Old goods have no home here. Stores do exist that are merely asylums for styles of the past. At \$15 we're showing Men's Suits which are worth every penny of \$20 and \$22. Take a turn through this store—see if everything doesn't smack of superiority.

Gans-Rady Company,

1005 E. Main Street,

Richmond, Va.

Northern Virginia,

Grain, Fruit, Dairy and Blue Grass Farms of Every Class within one hour of Washington, D. C.

LOUDOUN COUNTY Farms a Specialty...

Catalogue on application.

P. B. BUELL & SON, Real Estate Brokers,

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••• VIRGINIA FARMS •••
Nice little poultry farm, 100 acres, good house and orchard, \$500.00. Blue Grass, Stock and Fruit Farms. Address PORTER & GATES, Louisville, Va.

Go South.

For full particulars write
A. JEFFERS,
Norfolk, Va.

Cultivation and Storage of Sweet Potatoes.

Instructions from start to finish thorough. By mail (preferably by M. O.), 50 cents. If you register, deduct fee. BRYAN TYSON, Box, 210, Carthage, N. C.

GREAT BARGAINS IN VIRGINIA FARMS.

Below I give a few of the many choice offerings I have of Virginia Real Estate; fuller particulars, if desired.

No. 5.

Contains 163 acres; one-half under cultivation; balance in second-growth timber. Good seven-room dwelling and necessary outbuildings; good orchard in fine fruit section. Farm lies near Southern railroad, twenty miles from Washington; well watered; a splendid dairy farm. Price, \$2,000.

No. 16.

130 acres—20 acres hardwood, balance in good state of improvement, and a splendid quality of red clay subsoil; 60 acres in wheat and timothy; 20 acres in meadow, balance is new land, and will be for corn next spring. Situated in excellent neighborhood of refined people. Twenty-two miles from Washington, 5 miles from Herndon Station. Fronts on pike. Comfortable 4-room house and all buildings. Farm watered by large branches. Price, \$20.00 per acre. Terms, to suit purchaser.

No. 17.

80 acres—15 acres in hardwood, balance in grass, except 20 acres for corn. Fronts on pike; 5 miles from railroad station. Watered by large branch. All in good state of cultivation. No buildings. Price \$18.00 per acre. Easy terms.

No. 22.

225 acres in Loudoun county, 2 1-2 miles from railroad station, 40 acres in oak and hickory timber, soil mahogany clay, stiff clay subsoil, fine grain and grass land, all level and well drained. One to two miles from three churches and post-office. Running water in every field. Land in good state of production, free from stones. A good seven-room dwelling, dry cellar, shady lawn, a large barn, complete with stalls, grain room and driveway. Water in barn yard, double corn crib, meat and poultry house, all in good repair. Deep well at kitchen door. Situated in refined neighborhood. Price, \$20 per acre.

No. 23.

50 acres in Fairfax county, 2 miles from town, 10 acres in timber, 3 acres in apples, peaches, pears and cherries. Situated 13 miles from Washington, high state of cultivation. Operated now as a plant and market garden. Improvements, a nice two-story seven-room dwelling, barn 40x50, work shop, hog, poultry and meat houses, all in

excellent repair. Situated on macadam road. Price, \$2,650.

No. 25.

175 acres in Rockbridge county, 1 1-2 miles from Buena Vista, Va. 120 acres in blue grass, 10 acres in wheat, 15 acres for corn, balance in timber. Soil lime stone clay, high state of improvement. Land gently rolling and well fenced. New 10-room dwelling, two large porches, good 5-room tenant house and other small outbuildings, barn was burned, stone foundation 37x50 in good repair. Good spring in every field. Price \$5,300.

No. 28.

516 acres in Rockbridge county, 1 1-2 miles from town, near railroad; 300 acres of cleared land, 70 acres in wheat, 26 acres in white oak and hickory timber, 230 acres in blue grass and timothy sod, 190 acres of mineral land, 1 mile from railroad, cleared land in high state of cultivation, excellent fences. Improvements—new 10-room brick dwelling with three cellars, hot and cold water in house, telephone connections with county and long distance phones, barn 44x60, stable 30x45, sheep barn 24x15, double corn crib and granary 25x30, machine, carriage, ice and poultry houses, two 5 room tenant houses. Price, \$16,000; one-third cash and balance on 10 year time if desired.

No. 31.

2 acre lot, situated at intersection of three public highways, in a prosperous and thickly settled neighborhood. Improvements—a 2-story 6-room dwelling, a large store house, 5 rooms over the store, a feed stable 18x40, 20 feet high, blacksmith shop, wheelwright shop, and 4-room tenant house, all occupied and in excellent repair. Price, \$1,500. Fine business stand.

No. 34.

50 acres—Truck and fruit farm in Virginia, near steam and electric railroad, 12 miles from Washington, 10 acres in timber. This farm is almost covered with fruit trees, namely, peaches, pears, plums, cherries, apples, crab apples and berries. Land is smooth and gently rolling, watered by several springs. Improvements—5-room frame dwelling, barn 30x35, corn crib, granary, wagon and wood shed, hog, poultry and meat houses, all in

good repair. In excellent neighborhood. Price, \$5,000.

No. 30.

50 acres in Loudoun county, 3 1-2 miles from railroad. Land chocolate clay; 5 acres in timber, 3 acres in apple orchard 10 years old. Land in good condition. Improvements—a new 6-room dwelling not quite finished, a large stable, and other small farm buildings in fair condition. Price, \$1,600.

No. 33.

400 acres in Loudoun county, convenient to railroad, level road, 40 acres in timber, balance cleared, divided into eight fields, running water in all, good fence. Land well set in timothy and clover. Soil mahogany clay and some yellow loam, fine grain and grass land. Situated in pleasant neighborhood, 24 miles from Washington. Improvements—7-room dwelling, 1 1-2 story, new sheep barn and new cow barn, large stable for 9 horses, machine sheds, granary, corn crib, poultry house, fine spring house with large spring at edge of lawn. This farm is smooth and level. There are about 300 sheep and lambs on this farm. If farm is sold by May 20th, 1904, the farm and sheep and one-half of the lambs can be bought for \$8,500 on easy terms.

No. 35.

400 acres in Loudoun county, 26 miles from Washington, 60 acres in timber, balance cleared, smooth and just a little rolling, divided into seven fields, excellent fences, running water in all, 50 acres in wheat, 230 acres of orchard grass, blue grass, timothy and clover. Any of this land will grow from 40 to 50 bushels of corn to the acre without fertilizer. Improvements—handsome 8-room dwelling with closets, pantry and cellar, two long porches, new barn 30x100 feet, stalls for 12 horses and 50 big cattle, 4-room tenant house, granary and all other necessary small farm houses in excellent repair, large store house near dwelling, post-office in store, telephone in house. There are 30 three year old cattle on this farm. If farm is sold by the 20th of May, 1904, the farm and 30 cattle can be bought for \$9,000; one-third cash, balance to suit the purchaser.

I have a number of other good farms for sale, both large and small. Write me description of what you want, and I shall be more than pleased to serve you.

W. E. MILLER, Herndon, Va.

LEGHORN POULTRY FARM



Has for sale a limited number of S. C. BROWN and S. C. WHITE LEGHORN Pullets and Roosters. Best layers known. Prize Winning Stock. Price, \$1.00, \$1.50 each. Eggs in season at \$1.00 for 15; \$2.50 for 50; \$5.00 per 100. Satisfaction guaranteed.

Address A. T. MATTHEWS, Box 36, Parkley, Va.

Farm-Raised Poultry.

Two distinct flocks of Mammoth Bronze Turkeys from which we make matings for breeding purposes at reasonable prices. Eggs in season.

BARRED PLYMOUTH ROCKS,
WHITE PLYMOUTH ROCKS.
BIRDS AND EGGS.

PROGRESS FARM, Box 52, Normandy, Tenn

PIT GAMES

Black Devils and Red Cubans.

These cocks won 90 per cent. of battles fought in 1902 and 1903, and have never lost a battle when gameness and cutting qualities could win. Eggs \$2 per 15; stock for sale.

THOS. W. JARMAN, Yancey Mills, Va.

EGGS FOR HATCHING.

75c. Per Sitting of 15.

Light Brahmas, Black Minorcas, S. L. Wyandottes, Barred and W. Rocks, Brown Leghorns S. and R. C. White Leghorns S. C.

A few more Leghorn and Minorca Cockerels left. J. B. JOHNSON, Manassas, Va. CLOVER HILL FARM.

EGGS FOR SALE.

MAMMOTH BRONZE TURKEYS and BARRED PLYMOUTH ROCKS, are my specialties. My flocks of both are derived from "prize winners" of the best strains in the world.

PRIZE No. 1—Turkey eggs per 15, \$4.00. Barred Plymouth Rock eggs per 15, \$2.00.

PRIZE No. 2—Turkey eggs per 15, \$3.50. Barred Plymouth Rock eggs per 15, \$1.50.

If you wish to secure eggs, file your orders at once.

PIDMONT POULTRY PLACE,
Miss E. Cello Giles, Prop. White's Depot, Va.

Uncle Sam, in the person of 10 of his government officials, has charge of every department of the Hayner Distillery. During the entire process of distillation, after the whiskey is stored in their warehouses, during the seven years it remains there, from the very grain they buy to the whiskey you get, Uncle Sam is constantly on the watch to see that everything is all right. They dare not take a gallon of their own whiskey from their own warehouse unless he says it's all right. And when he does say so, that whiskey goes direct to you, with all its original richness and flavor, carrying a United States registered distiller's guarantee of purity and age, and saving you the dealers' big profits. If you use whiskey, either medicinally or otherwise, you should read the offer of The Hayner Distilling Company elsewhere in this paper.

DR. HAAS' EXPERIMENTAL FARM.

The accompanying illustration is a scene on the experimental farm located near Indianapolis, Ind., and owned and conducted by Dr. Jos. Haas. This farm is maintained for the express purpose of demonstrating what can be done with the different live stock preparations manufactured by Dr. Haas, all of which were perfected years ago and users of them to-day are feeding preparations that are abso-



lutely certain to bring about the results claimed for them. Nothing is claimed for his Hog Remedy, Live Stock Remedy (for horses, cattle and sheep), Stock Food and Poultry Food that practical tests have not proven they will do. See his advertisement elsewhere in this issue, and send to him for a copy of his book, "Hogology," which will be sent free to any of our readers asking for it, if Southern Planter is mentioned in writing.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Hollybrook Farm

EGGS FOR SITTING

==OR==

INCUBATORS.

Barred Plymouth Rocks

Per Sitting \$1.10, per 100 eggs \$5.00.

:: WHITE WYANDOTTES ::

Per Sitting \$1.50, per 100 eggs \$7.00.

Both are from first class vigorous stock from the best laying strains in the country.

HENRY W. WOOD,

P. O. Box 330.

Richmond, Va.

EGGS FOR HATCHING

From WHITE WYANDOTTES, SINGLE COMB and BROWN LEGHORNS and PEKIN DUCKS. We breed only layers from layers, and get layers that commence early and keep at it. Vigorous stock, fertile eggs, and careful packing is our way. Eggs, 15 for \$2.40. DIXIE POULTRY COMPANY, R. R. No. 4, Richmond, Va.

Barred Plymouth Rocks

PRIZE WINNERS, THOROUGHbred. The matchless F. F. V. strain founded on Bradley Bros., Thompson and others Plymouth Rocks, are recognized as the best general purpose fowl. Improve your stock by new blood. Fancy stock for show room. Large, vigorous birds for farms. Eggs, \$1.50 to \$3 for 15. Circular free. VIRGINIA HILL POULTRY FARM, Bristol, Va.-Tenn.

14 years line bred

Barred Plymouth Rocks

for laying qualities. Try a few sittings and be convinced. Price \$1.04 per sitting of 15, 2 sittings at \$1.50; no stock for sale; see what one of my many customers says:

"The birds received all O. K. I am well pleased with them. They are more than I expected. When I am in need of any more stock, you can depend on me."

T. O. TRUMP, Kearneysville, W. Va.

E. F. SOMMERS, - Somerset, Va.

WINTER LAYERS

for Southern farmers. Ten years' experience with fowls has taught me that WYANDOTTES and ORPINGTONS excel in winter laying. Blue grass S. C. ORPINGTONS (from imported stock). Eggs, \$1.25 per 15. First class BUFF and WHITE WYANDOTTE. Eggs, \$1.00 per 15. M. B. TURKEYS in FALL. HUGUENOT POULTRY YARDS, Dublin, Va.

EGGS!

Barred Plymouth Rocks

ONE DOLLAR FOR 15.

Prompt attention.

MRS. JNO. F. PAYNE,

University Station, Charlottesville, Va.

CLAIRMONT DAIRY FARM.

Pure-bred young B. PLYMOUTH

ROCK hens for sale at 75c each.

Miss S. M. HITER,

Ellisville, Louisa Co., Va.

Mention THE SOUTHERN PLANTER when corresponding with advertisers.

EGGS-ACTLY-EGGS!!!

Here is the place to get your eggs for hatching. Choice eggs from Standard bred Barred Plymouth Rocks, "Ringlet" strain. Some of "THE BEST WHAT IS." Barred Rocks are the FARMER'S FAVORITE, the POULTRYMAN'S CHOICE—in fact, they are the PRIDE OF THE POULTRY WORLD. If you want the BEST. Write me to-day. E. C. NEWTON, Propr. Pee Dee Poultry Farm, McColl, S. C., R. F. D. No. 2.

Eggs at One-Half Price

For 30 days to introduce my BARRED PLYMOUTH ROCKS. No fowls for sale. Eggs, 60c. for 13; \$1 for 26; \$1.50 for 40; \$3 for 100. Can furnish a few sittings of S. C. B. Leghorns at \$1 for 15. If orders booked early. No more Berkshire Figs for sale.

M. E. ANDREWS, Hurt, Pitts. Co., Va.

BUFF ORPINGTON EGGS. POLAND-CHINA FIGS.

Book your orders early for eggs from our solid Buff Orpingtons. Orders can only be filled in turn. Sold out on cockerels long ago, and no stock till fall. Eggs, \$1 per 15. Orpingtons only. Poland China pigs, \$7 for pair; \$3.75 for one.

OCCONEECHEE FARM,

Mecklenburg Co. JEFFRESS, VA.

CHOICE

FOR
HATCHING.

Of 40 Varieties Best Poultry. Fine, large illustrated descriptive Poultry Book postpaid, only 6c. Price list FREE. Write now. JOHN E. HEATWOLE, Prop. Valley Poultry Farms, Harrisonburg, Va.

BUFF LEGHORNS

Fancy stock, progeny of New York winners for 10 generations. Hens averaged 220 eggs last year. Order now to avoid disappointment. Eggs \$2.00 for 15. Also

MAMMOTH BRONZE TURKEY

eggs, 13 for \$5.00.

A. R. VENABLE, Jr., Farmville, Va.

APRIL - MAY

The best months in the year to hatch chicks.

ORDER YOUR EGGS FROM OUR

HEAVY Laying STRAIN of Barred Plymouth Rocks

\$1.00 for 15.

D. N. McLEAN, Maxton, N. C.

Partridge Cochins,

BLACK BREASTED RED GAMES, S. C. RHODE ISLAND REDS, S. C. WHITE LEGHORNS.

Eggs, \$1.25 per 15; \$2.00 per 30. If we do not have what you want, write us and we will tell you where to get it. RIVERSIDE POULTRY FARM, J. B. COFFMAN & SONS, Dayton, Va.

Edgemont Poultry Yards,
Liberty Mills, Va.

WHITE WYANDOTTES

and BUFF P. ROCKS.

Stock and Eggs for sale. Choice lot of Lockers at \$1 up; eggs, \$1 for 15, or \$5 per 100. JOHN A. REDDY, Prop.

POULTRY KEEPING FOR PROFIT.

This is the title of a very handsome book of 186 pages, issued as a catalogue by the Cyphers Incubator Co., of Buffalo, N. Y., who have been advertising with us this season.



The illustration shown here does small justice to the beauty of the cover. However, the attractiveness of the book is only secondary to its contents. Between the covers will be found a thorough discussion of the poultry question from a to z, and any one who reads it cannot fail to get a lot of valuable information. We suggest that all of our readers interested in poultry send for a copy of it, mentioning the SOUTHERN PLANTER.

POE'S LOVE OF RICHMOND.

Poe loved Richmond as he loved no other place on earth. His happy childhood was spent there—the only period of his troubled life which was free from want. Here he found his foster-father, John Allan, who was proud of the orphan boy, and the only mother he ever knew, who was sweet and gentle with him to the end. Here were the friends and playmates of his boyhood, and here lived the gentle woman who was the "Helen" of the most beautiful of his early poems. Here, after a first ceremony in Baltimore, he was married by a second to a lovely and youthful Virginia Clemm, and here they spent the happiest year of their married life. Here, as editor of the "Southern Literary Messenger," he did much of his best work.—April Century.

CUTAWAY HARROWS.

The Cutaway Harrow Co. has extended its advertising contract with us for another term. We invite the attention of our readers to these useful labor-saving tools. This company will be very pleased to mail descriptive pamphlet to all enquirers.

: : Barred Plymouth Rocks, : :

Silver Laced and White

WYANDOTTES,

EGGS FOR SITTING At Low Prices.

All our birds are fine specimens and heavy layers. Send us a trial order. Satisfaction guaranteed.

Granite Poultry Yards,

Mrs. J. D. A. Fisher, Prop.

R. F. D. 3. Salisbury, N. C.

BARRED P. R O**Eggs and Cockerels**

Eggs From Sunnyside Ringlet Strain, \$1.50 for 15 From good Pure bred 75 cents for 15 Incubator eggs, \$3.00 for 100

Sunnyside Ringlets, \$2.50 each. Return the cockerels, if not satisfactory, and get money back.

Sunnyside Poultry Farm,

Christiansburg, Va.

WALSH'S**Barred Plymouth Rocks**

High class combination utility and exhibition stock. Best blood. Bred from prolific layers of large brown eggs. Eggs, \$1.50 per 15.

L. W. WALSH,
Lynchburg, Va.

Box 194.

SILVER-LACED WYANDOTTES.

Eggs For Hatching, \$1.00 per 15 from strong and healthy birds of leading strains. A few choice pullets at \$1 each. Pure-bred Poland China Pigs at \$5.00 each.

Dr. H. H. LEE,
R. F. D. 2, Lexington, Va.

MY PURE-BRED

S. C. Brown Leghorns,

Are the best layers in the world—lay at all seasons. Place your orders early for eggs, 15 for \$1.

W. S. GUTHRIE, Childress, Va.

BROWN LEGHORNS.

Eggs for hatching from splendid layers, \$1 per setting. Pens mated for best results. A few White P. Rock Cockerels at \$1 each.

R. W. MAW, Jr., Centalla, Va.

EGGS FOR HATCHING

From finest strains in America. White Wyandottes, Barred Plymouth Rocks, \$1.00 per 15. PENN LAIRD POULTRY CO., - Penn Laird, Va.

MAGAZINES.

Easter is a subject of prominence in the April Century. Two of the four color drawings are of Easter subjects: "The Easter Hymn," the frontispiece, by Violet Oakley, and "The Easter Bonnet," by Anna Whelan Betts. Two other pictures are of "Easter in Greeley Square, New York City," a double-page drawing of a flower market by Jules Guerin, and an engraving by Cole in the Old Spanish Masters series of Morales's beautiful "Madonna of the Little Bird." The other two pictures in color are by Maxfield Parrish, illustrating the famous Villa d'Este and the Pool of the Villa d'Este, in conjunction with Edith Wharton's paper on "Villas Near Rome," with which there are other pictures in black-and-white by Mr. Parrish, one of which might be an illustration of an anonymous poem in the May number, "Spring at the Villa Conti." L. Frank Tooker, whose poems of the sea are well known, writes of "Spring in South Street," the harbor of sea craft in New York.

The most novel feature of the April Century is the opening part of Mr. Weir Mitchell's new record of "The Youth of Washington," told in the form of an autobiography. With it is given a portrait of Dr. Mitchell, recently made by John S. Sargent. Dr. Mitchell's unique experiment is the fruit of years of research, and challenges attention by its combination of the interest of fact with the interest of fiction. Readers interested in the war in the East will turn first of all to "The Great Siberian Railway," a paper written from recent personal investigation by James W. Davidson, lately appointed United States Consul at Antung. Mr. Davidson had unique facilities for his four months' study of the great thoroughfare. He writes chiefly of its operations in time of peace, but its important relationship to the war gives special timeliness to the article. A paper of current interest in scientific investigation, entitled "Protozoa and Disease," is contributed by Gary N. Calkins, of Columbia University, whose important work in tracing the life history of the small-pox germ is about to be announced. The article is illustrated by the author, "Landmarks of Poe in Richmond," by Charles Marshall Graves, is a paper of identifications in a field of perennial interest, and is illustrated by pictures by Harry Fenn and by a number of new portraits. "The Fights of the Fur Companies," by Agnes C. Laut, is a chapter of adventure in the Louisiana Purchase, illustrated by Remington, Fenn and others, and presenting a quaint and hitherto unpublished portrait of John Jacob Astor. Maurice Maeterlinck, whose article, "Our Friend, the Dog," in a recent number of the Century attracted very large attention, contributes an essay on "Sincerity and Love."

The frontispiece of the April St.

EGGS from Fine Fowls.

Barred, Buff and White Plymouth Rocks; Silver, White, Buff and Partridge Wyandottes; Black Minorcas; Black Langhans; Light Brahmas; Buff and Partridge Cochins; White and Brown Leghorns.

◆◆◆ 15 FOR \$1.00 ◆◆◆
except the Wyandottes which are \$2.00 for 15
No stock except a few B. P. Rocks and Light Brahmas. C. J. WARINER, Mgr., Ruffin, N. C.
OAKLAND POULTRY FARM.

Racket Farms, A. S. JOHNSON, Mgr. Parksley, Va.

Toulouse Geese, Pekin Ducks,
OF LARGEST STRAINS.

RHODE ISLAND REDS, WYANDOTTES, BROWN LEGHORNS. Can furnish Leghorn birds of best quality by the hundred. Geese eggs, 6 for \$1; all others, \$1 per sitting, or \$5 per 100.
Rhode Island Reds and water fowl a specialty. Belgian Hares cheap. Satisfaction guaranteed.

EGGS! FREE!! EGGS!

One setting (13) FREE from flock of best B. P. ROCKS in Virginia. Write quick for particulars. Home of the 400 in Poultry and Stockdom. Most fashionable strains of B. P. fowls, M. B. TURKEYS, Jersey Cattle, Duroc Jersey and Poland China Swine, English Setters and Beagle Hounds. THE CEDARS F. & S. FARM, WM. G. OWENS, Midlothian, Va.

EGGS

From my S. C. Black Minorcas and S. C. White Leghorns of the very best strains. These breeds are raised on separate farms, and have free range. Eggs, 75c. per 15; \$1.50 per 35; \$4.00 per 100. I guarantee two-thirds hatch, or replace at half price.

J. MILTON GARNETT, Prop.,
Mitchell's, Va.

Silver Laced Wyandotte.

No finer general purpose fowl in America. Bred for beauty and utility. Eggs from choice and pure bred stock, \$1.25 per 15; \$2.50 per 30. Twenty-three years a breeder and shipper.

S. P. YOVER, Denbigh, Va.

BEST STRAIN

BARRED PLYMOUTH ROCKS.

The ideal farmer's fowl. Eggs, 50c per setting of 15 F. O. B. here. Mrs. WM. P. BURES, R. F. D. 1, Bedford City, Va.

FOR SALE

B. P. ROCK eggs \$2.00 per 15. No better blooded stock. My highest aim is to treat my customers right and retain their patronage.

CHARLIE BROWN, R. F. D. 1, Cartersville, Va.

BARRED PLYMOUTH ROCKS, BUFF COCHINS, PEKIN DUCKS. Stock and eggs for sale very low. Incubators and organs cheap. Satisfaction guaranteed. Rev. J. W. HECKMAN, Cascade, Va.

MINORCA EGGS for hatching 75c per sitting of 15.

Mrs. A. G. HILL, Huon, Louisa County, Va.

NOTICE!

S. C. Brown Leghorn Eggs for Hatching, 75c per 15, \$4.50 per 100.

W. B. GATES,
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BABY CHICK FOOD

PRODUCES

HEALTHY CHICKS.

SAMPLE FOR THE ASKING.

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Having made a change in management we are better than ever, prepared to make prompt shipment.

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NOW IS THE TIME,



to set eggs. My eggs are produced from some of the best stock in the country, and will give satisfaction. Prices reasonable. G. F. POINDEXTER, Breeder of WHITE WYANDOTTES and PEKIN DUCKS. BROOK MOUND FARM, Greenlee, Rockbridge Co., Va.

Edgewood Stock Farm.

WHITE WYANDOTTES.

This month your last chance to get cockerels. Special price for three. Chickens have run of large farm, so cockerels are sure breeders. Eggs for sale at \$1 dozen. H. B. ARBUCKLE, Maxwellton, W. Va.

Plymouth Rocks.

I offer 25 choice pure bred BARRED PLYMOUTH ROCK COCKERELS at \$2 each. Entire stock was purchased last Spring from Biltmore, of prize winners. DAVID DUNLOP, Westover, Va.

White Wyandotte

Eggs, 15 for \$1.

RHODE ISLAND RED.

Eggs, \$1.50 for 15, cash with order.

JOHN W. MORRIS, Waldport, Va.

EGGS.

200 egg strains of W. P. ROCKS, W. WYANDOTTES, W. S. C. LEGHORNS. Limited number sittings from best pens. Reasonable prices. All stock inbred for eggs. Address E. M. HICKMAN, Edinburg, Va.

BARRED PLYMOUTH ROCKS

and BLACK MINORCA eggs for sitting at 75c. for 15 eggs; \$1.25 for 30; and \$3.50 for 100. Apply to Mrs. N. T. GARTH, Ellisville, Va., Louisa county.

KEEPS EGGS FRESH
UNTIL THEY ARE USED.
ZINKY SYSTEM.



A FILLER, PRESERVER, TESTER
AND CARRIER. INDE-
STRUCTIBLE. IN FIVE
OR WATER. TESTIMONIALS
FREE. CHEAPER THAN STAMPEDED.
National Egg Carrier Co.
SCANTON, PA.
LIVE AGENTS WANTED.

Barred Plymouth Rocks,

Eggs for hatching from ROSE COTTAGE FARM
1.00 for Sitting of 15 Eggs.

MRS. MOLLIE A. SHIELDS,
Tyrconnell, W. Va.

PUREBRED Barred Plymouth Rock Eggs,
\$1.00 per sitting of fifteen; also M. Bronze Tur-
keys eggs, \$2.50 per sitting. Splendid birds
F. Maxwell Conner, P. O. Box 316, Richmond, Va.

PEKIN DUCK EGGS.—Thorough-
bred, from young stock, very pro-
lific, healthy; wide rangars.
Per Sitting \$1. Chas. B. Cooke, Richmond, Va.

BERMUDA GRASS ROOTS.

50c per bu.; 10 bus. and over, 37c
P. N. LITTLE, Bold Spring, Ga.



Jacks, Jennets and Stallions
FOR SALE. FINE JACKS A
SPECIALTY. When writing a
state exactly what you want
or come and see our stock.

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Breeders of and Dealers in
Jacks, Jennets, Stallions.
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YEARLINGS.
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SPECIAL BARGAIN SALE OF JACKS.

For the next 60 days, I will sell
some fine Jacks at **ONE-HALF**
their value, in order
to make room for the
coming importation.
I will also pay the R.
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once for a bargain.
BAKER'S JACK FARM,
Lawrence, Ind.



"Feeds and Feeding"

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Farmers and Stockmen.

Delivered anywhere for \$2.00
With the SOUTHERN PLANTER, 2.25

A neat Binder for your back num-
bers can be had for 25 cents. Address
our Business Office.


Nicholas is a half-tone reproduction from a Copley print of "Dorothy," as winsome a little lass as ever sat for her picture. The original portrait was by Lydia Field Emmett. Temple Bailey's stories always please young readers, and "The General's Easter Box" is seasonable and cheery, well worth the second reading it is sure to have. Anne McQueen's "A Work of Art" is a quaint story of a quaint little maiden of long ago, a tale good enough to be true. Every girl and boy, of whatever age, will be intensely interested in the two Robinson Crusoe articles, "The Author of 'Robinson Crusoe,'" by W. B. Northrop, and "Robinson Crusoe's Island Two Hundred Years Later," by Francis Arnold Collins. April 26th will be the one hundred and seventy-third anniversary of Daniel Defoe's death, a fact which gives especial interest to the likeness of the author reproduced from a copperplate portrait in the British Museum. Several photographs, made a few months ago by some Chilean warship officers, and now published for the first time in the United States, illustrate the articles, showing the familiar scenes of Crusoe's shipwreck, his cave and his lookout, the tablet erected in memory of Alexander Selkirk, etc. Another article of special and timely interest is the account of "A Japanese 'Middy,'" by Teichi Yamagata, an officer in the Japanese navy.

Stories in the April St. Nicholas are many and varied in interest. The plot in B. L. Farjeon's serial, "A Comedy in Wax," thickens to such exciting interest that waiting for the next installment will be hard work. "Four Little Girls and Their Four Little Stories" is a delightful Western idyl from the pen of Joaquin Miller. "Wanted" is a jolly, helpful story for boys by Margaret Vandegrift; "What Befel Prince Snapsandsnails" is a nice, old-fashioned fairy story, and "A Visit to a Colorado Glacier" is an account of the only known glacier in the interior of this country. Tudor Jenks tells "About Old Ink-stands," and Margaret Jackson brings "The Little Duke of Dorset" near to the girls and boys of to-day.

The April number seems more than usually rich in taking pictures and in jolly verse, and the departments are, as usual, almost the best of the feast.

DAN PATCH, 1:56½.

The International Stock Food Co., owner of this celebrated horse, would like to send all of our readers a handsome poster of him. It is lithographed in nine colors and contains no advertising. All that is necessary to secure a copy of this poster is to refer to the ad of this company on another page and answer the two questions contained therein. You can use a postal.



MORE


than feed is required to develop the perfect hog. Highest results presume perfect health from birth to slaughter. Get at once to the root of the matter. Insure perfect health to your herd by creating absolutely sanitary conditions. The way lies through the use of

Zenoleum

This standard remedy of the stockman destroys the disease germ, prevents cholera, purges the stomach and relieves all intestinal worms, kills lice, cures mange and gives a clean, healthy skin, a healthy vigorous system. Don't wait until cholera strikes—you may lose your all. **ZENOLEUM** insures the hog's health.

"The Great Coal Tar Carbolic Disinfectant Dip"
Sample gallon of Zenoleum by express, prepaid, \$1.50; five gallons, freight prepaid, \$6.25. Two Zenoleum hand books, "Veterinary Adviser" and "Piggy's Troubles" are full of value for stockmen. Ask for them.

ZENNER DISINFECTANT CO.
63 Bates St. Detroit, Mich.



"JAVANAIS"

IMPORTED FRENCH
COACH STALLION.

Will be in the stud at Mr. A. Pollard's "Dunraven Farm," three miles below Richmond, on New Market Road.

Javanais is large, handsome, and of idea carriage conformation, and has proved himself a sire of carriage horses. Pedigree on application. Fee, \$20.

HORSES BOARDED winter or summer; horses fitted for market. Colts broken to harness or saddle. A. POLLARD, R. F. D. No. 5 Richmond, Va.

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It may lead to
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Sold in Two Sizes,
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Order Direct from
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Dept. K. DURHAM, N. C.

CATALOGUES, PAMPHLETS, ETC.

American Farmers' Manual for 1904, Peter Henderson & Co., New York City.

Griffith & Turner Co., seedsmen, Baltimore, Md.

Mount Hope Nurseries, Ellwanger & Barry, proprietors, Rochester, N. Y. Southwick Nurseries, Ed. Gillett, Southwick, Mass. Hardy ferns and flowers.

Geo. A. Sweet Nursery Co., Danville, New York. Descriptive catalogue for 1904.

Elmwood Nurseries, J. B. Watkins & Bro., proprietors, Hallsboro, Va. New descriptive price list for spring and fall of 1904.

Circular and price list for 1904 of J. W. Hall, Marion Station, Md. Potato and strawberry specialist.

Alfalfa, a four page circular from Geo. Campbell Brown, Spring Hill, Tenn.

How and When to Spray, from the Goulds Mfg. Co., Seneca Falls, New York.

Catalogue and price list No. 16, National Hoist & Machine Co., Chicago, illustrating and descriptive of Parker Stump Pullers, Grubbing Machines, Hoists and attachments.

A Book of Field Scenes, The Keystone Farm Machine Co., York, Pa. This catalogue is described elsewhere.

The Modern Canner, from the company bearing that name, Bridgeport, Ala. See ad in another column.

Descriptive circular, directions, etc., for the use of Patent Process Fertilizer Lime from the Rockbridge Lime & Stone Co., Lexington, Va.

Bug Death, describing this well known insecticide, made by the Danforth Chemical Co., Leominster, Mass. See ad in another column.

A Short Story for Poultry Raisers, Union Fence Co., New Haven, Conn.

The O. I. C. Swine Breeders' Association, Cleveland, Ohio. Last year's report of the Association.

Photographic views and description of the great Baltimore fire, issued by the Armour Fertilizer Works, Baltimore, Md. Price 25c.

We strongly urge our readers to send for any or all of the above mentioned catalogues, in which they may be interested. Many of them are works of art and all of them contain valuable information in addition to giving descriptions of the wares of the firms by which they are issued.

Always mention the SOUTHERN PLANTER when writing.

WILD GAME WANTED.

Dr. Cecil French, of Washington, has an advertisement in another column which will interest numbers of our readers. He will buy anything from a white elephant to a white mouse. All of our readers should look up his ad and let him know what they have for sale. He will pay cash for what he wants.

BERKSHIRES

ANNEFIELD HERD

Contains the

Finest Blood Lines

In England and America.

Young Stock for Sale.

Inquiries cheerfully answered.

SPECIAL: A few extra 6-months old pigs, either sex.

EDW. G. BUTLER, Annefield Farms,
Briggs, Clarke Co., Va.

Berkshire Hogs!



Sires in service, **Rockland Majestic of New Era**; his sire **Rockland Gentry**, champion of America in 1903; grand sire, **Baron Lee IV**, Model Lee IX, sire **Gov. Lee**, champion of America in 1889, Sows of **EQUALLY NOTED** Strains. A few nice pigs for sale. Write for prices.

JNO. CALHOUN, Clifton, S. C.

THOROUGH-BRED....

**Berkshire Boars,
Dorset Buck Lambs,
Jersey Bull Calves.**

All stock in best of condition and guaranteed as represented.

F. T. ENGLISH, Centreville, Md.

Hawksley Stock Farm

offers some extra line

BERKSHIRES.

A top lot of pigs not akin, ready for April delivery.

B. F. Rock and S. C. B. Leghorn eggs at \$1.00 per 15.

J. T. OLIVER, Ailens Level, Va.

Accomac Herd

Large English Berkshires

For the next 30 days I offer some choice sows and pigs at HALF their value. Fine COLLIE PUPS, strictly pure bred. Write your wants. A. P. WHITE, JR., Parkesley, Va.

JERSEY BARGAINS.

10 HEIFERS out of cows from the best in my herd, which I have been 30 years in building. They are the prettiest I ever saw. Price, \$30 each.

2 Reg. Bull Calves

6 wks. and 6 mos. old. Each out of a cow giving 2 pounds of butter per day, and by

Coquette's John Bull,

he out of a cow with a record of 18 pounds butter per week. Price, \$50 each. Also a U. S. SEPARATOR for sale at \$40; in good repair and cost \$125 new.

A. R. VENABLE Jr.,
Farmville, Va.

V. P. I. Farm Bulletin

We are now offering some choice young Bulls of the following breeds:

Shorthorn, Hereford, Aberdeen-Angus.

Write at once for pedigrees and prices.

D. O. NOURSE, Prof. of Agr.
Blacksburg, Va.

Swift Creek Stock and Dairy Farm



Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS AND HEIFERS.

None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 4 to 6 months old, \$25; Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

I. P. BRASWELL, Prop., Battleboro, N. C.

Cattle, Horses and Sheep

From Blue-Grass, Va.
Bought on Commission

We can furnish grade Shorthorn, Hereford and angus steers, from 1 to 3 years old.

High grade, and pure-bred, heifers and young bulls at low prices.

SADDLE, HEAVY-DRAFT and DRIVING HORSES. Write us your wants.

SHANNON BROS.,

POPLAR HILL, VA., Giles Co.

Telegraph Office and Station,

Dublin, Va., N. & W. Railroad.

WANTED 20 VIRGINIA or NORTH CAROLINA GRADE S-HORTHORN

heifers, 2 to 3 years old, bred to Registered Bull, and to calve from August to January. Address, stating price, breeding on both sides weight and age. JANNEY BROS., Gloucester, Va.

REPORTS.

U. S. Department of Agriculture, Washington, D. C. Bureau of Animal Industry. Bulletin 47. The Hog Industry.

Bureau of Animal Industry. Bulletin 55. Statistics of the Dairy.

Bureau of Plant Industry. Bulletin 57. Methods used for Controlling and Reclaiming Sand Dunes.

Farmers' Bulletin 188. Weeds used in medicine.

Farmers' Bulletin 190. Experiment Station work.

Alabama Experiment Station, Auburn, Ala. Bulletin 126. A leaf curl disease of oaks.

Bulletin 127. Alfalfa in Alabama. Colorado Experiment Station, Fort Collins, Col. Bulletin 85. Cantaloupe seed.

Bulletin 86. Crown gall.

Idaho Experiment Station, Moscow, Idaho. Bulletin 39. Some experiments with fungus diseases in 1903.

Bulletin 40. Winter spraying for the apple aphid.

Illinois Experiment Station, Urbana, Ill. Bulletin 89. Notes on the insecticide use of the gasoline blast lamp.

Bulletin 90. Fattening steers of the various market grades.

Bulletin 91. Preventing contamination of milk.

Bulletin 92. City milk supply.

Circular 73. Milk production at the University of Illinois.

Iowa Experiment Station, Ames, Iowa. Bulletin 74. Breakfast foods.

Kansas Experiment Station, Manhattan, Kas. Bulletin 121. Treatment and utilization of flood damaged lands.

Bulletin 122. Blackleg and vaccination.

Kentucky Experiment Station, Lexington, Ky. Bulletin 110. Nursery inspection and San Jose Scale.

Bulletin 111. The Hessian fly in 1902-'03.

Bulletin 112. Commercial fertilizers.

Maryland Experiment Station, College Park, Md. Bulletin 90. Experiments on the control of San Jose Scale.

Nebraska Experiment Station, Lincoln, Neb. Bulletin 82. Kherson oats.

New York Experiment Station, Geneva, N. Y. Bulletin 241. Should potato growers spray?

Bulletin 243. Spray mixtures and spray machinery.

Bulletin 244. Directors report for 1903.

Rhode Island Experiment Station, Kingston, R. I. Bulletin 98. Analysis of feeding stuffs.

Tennessee Experiment Station, Knoxville, Tenn. Sixteenth annual report for 1903.

—FOR SALE—

2 ABERDEEN-ANGUS HEIFERS, Bred from "Hero of Bunker Hill," 31462, at farmer's prices. They are blocky, good bone, neatly coats, and WIDE AS A CART. J. TABB JANNEY, Van Cleaveville, W. Va.



ANGUS & HOLSTEIN CATTLE. Registered and grades, of all ages and sexes, and of champion blood for the beef and milk strains and at moderate prices. Also Nursery stock of all descriptions.

MYER & SON, Bridgeville, Delaware.

MONTEBELLO HERD

ABERDEEN-ANGUS CATTLE FOR SALE—2 Registered Bulls, calved Dec. 17th, 1902, and Aug. 28th, 1903.

Berkshire Pigs, (Biltmore Strain),

farrowed May 1903. For terms, apply to L. H. GRAY, Orange, Va.

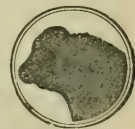
—ROSEDALE HERD—

Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as low as good breeding will permit. Inspection of herd and correspondence invited.

ROSEDALE STOCK FARM, Jeffersonton, Va.

Angus Cattle.



Am still offering at reasonable prices, some choice yearling ABERDEEN-ANGUS BULLS.

These bulls are sired by a bull weighing over 2,000 pounds. The Carysbrook Herd of Angus cattle is probably the largest in Virginia, and has doubtless furnished more bulls to cattle breeders of the State and farther South than other herd in the South. C. E. JONES, Carysbrook, Va.

H. F. COLEMAN & SONS, MULBERRY GAP, TENN.,

—BREEDERS OF—

ABERDEEN-ANGUS CATTLE.

JANNET'S KING, 4821, greatest son of Valiant Knight II, 29331, first prize bull at all three of the International shows, heads the herd. Visitors and correspondence invited. Young things for sale.

GREENFIELD HERD OF

Aberdeen Angus Cattle.

Baron Ida, 20184 (Champion yearling, 11 frats, 17 times in 1st prize herd, 4 frats on produce of sire and 3 times at head of grand sweepstakes herd) at head of herd.

The females in this herd are prize winners or the immediate descendants of prize winners sired by such noted bulls as Champion Lord Highburst, Beau Forbes, H. by Beau Bull (champion of the West for two years); Cham. Baron Ida, Ludolph 4th, Rustler 2d. Choice calves from the above cows sired by Baron Ida, Encouragement 46382, and Erard 55380.

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about good wheels and good waxes that will save you a lot of work and make you a lot of money—the

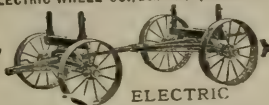
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In every test, they are the best. More than one and a quarter millions sold. Spokes united to the hub. Can't work loose. A set of our wheels will make your old wagon new. Catalogue free.

ELECTRIC WHEEL CO., Box 146, Quincy, Ills.



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POLAND CHINAS.

I offer for immediate sale, 12 pure-bred open Gilts and 4 Boars, farrowed Sept. 1903.

These are first class and in fine condition. Apply to

C. A. WILLIAMS,
Ringwood, N. C.

PURE-BRED Poland-China

Pigs and one 2 year-old Reg. Boar for sale. Prices reasonable. Apply to W. H. COOPER, Catawba, Va.

PURE-BRED DUROC-JERSEYS and Large ENGLISH BERKSHIRES.

I am now booking orders for Spring pigs. Both breeds are of the finest blood lines that money can buy. Farmer's prices and satisfaction guaranteed. B. E. WATSON, Pukaski, Va.

ORCHARD HILL PURE BRED

Poland Chinas!

A few pigs, brood sows, and boars for sale; also some C. B. S. LEHORN Cockerels.
F. M. SMITH, JR., Charlottesville, Va.
R. F. D. No. 4.

Registered
P. Chinas
Berkshire,
C. Whites
Fine large
strains. All ages mated
not in 8 week pigs.
Bred sows, service boars
and Poultry. Write for prices and free circular.
P. F. HAMILTON, Cochranville, Chester Co., Pa.



Poland-Chinas and Chester Whites

AT FARMER'S PRICES.

S. M. WISECARVER, - - Rustburg, Va.

Jersey Red Pigs I have some very fine Jersey Red Pigs healthy Jersey Red Pigs, about three months old. Price, \$2.00 each. Only a few left.

CHAS. B. COOKE, Richmond, Va.

Virginia Experiment Station, Blacksburg, Va. (Special Bulletin.) Fourth report of the State Entomologist and Plant Pathologist on the San Jose Scale and the administration of the crop pest laws of Virginia 1902-1903.

Wyoming Experiment Station, Laramie, Wyo. Bulletin 59. The wheat grasses of Wyoming.

Bulletin 60. Wheat growing on the Laramie plains.

Philippine Bureau of Agriculture, Manila, P. I. Farmers' Bulletin 10. Maguay in the Philippines.

Imperial Department of Agriculture for the West Indies, Barbadoes, W. I. Lectures on the diseases of the sugar cane.

West Indian Bulletin, Vol. IV, No. 4. Sea Island cotton in the United States and the West Indies.

WASHINGTON NOTES.

Representative Brooks, of Colorado, has introduced a bill for the purpose of taking a census of the live stock of the country. It provides for a tax of a mill on each head of cattle, horses, mules and asses, one-fourth of a mill on each head of sheep and goats, and one-half of a mill on each hog in the country. The tax is to be collected through a system of stamps, similar to the internal revenue method. The idea of a tax therefore is simply to provide funds for gathering and compiling annually live stock information.

Is there such a thing as a man having too much agricultural knowledge? Possibly there is, especially if that man is not a farmer. I have in mind the genial assistant chief, or more properly, assistant editor, of the Agricultural Department's Division of Publications, Joseph A. Arnold, who has charge of the review and editing of the entire output of bulletins and circulars of the department, averaging something over one a day.

"I do not believe," said Mr. Arnold, the while fingering the page proofs of a bulletin on farm experiments, which I later corralled for the benefit of the readers of the Southern Planter, "that the majority of the farmers of the country appreciate how really good and useful some of the publications of the department are. Because farm bulletins are sent to farmers upon request, free of charge, and probably because such a mass of uninteresting documents are printed by the different government departments, farmers doubtless think that these bulletins and booklets on farm crops, farm animals and farm procedure, are not worth studying or following. A knowledge of the facts would convince any man of an inquiring turn that this department affords every farmer a free library and issued in convenient form for carrying around in his pocket for reading at odd moments, which would cost him in the open market many dollars. The department has special-

REGISTERED SHORTHORNS.

Our old, established herd of about forty good milking cows is headed by imported SIR WILFRED LAURIER, 144766 (a son of the great English champion Marengo); CEDRIC, 126083 (a grandson of William of Orange, of Marr Farm), and FRANTIS LAD, 210443 (a winner of second prize in senior bull calves at 1903 International Young stock for sale,

P. S. LEWIS & SON,
Point Pleasant, W. Va.

ELLERSLIE FARM Thoroughbred Horses AND SHORTHORN CATTLE, Pure Southdown Sheep and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.

MEADOW BROOK SHORTHORNS.

I have several very fine Shorthorn Red Bull Calves 6 to 10 months old, and several very nice yearling Shorthorn Heifers for sale at farmer's prices. C. A. SAUNDERS, Meadow Brook Stock Farm, Culpeper, Va.



COOK'S CREEK HERD SCOTCH - TOPPED SHORTHORNS...

Herd Headed by Governor Tyler, 18048, 1st prize aged bull at Radford Fair, and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

WM. T. THRASHER, Springwood, Virginia,
BREEDER OF PURE BRED

Short Horn Cattle and Poland-China Hogs.

FOR SALE: 2 yearling bulls, good ones, ready for service, sired by Verbena's Champion No. 12881; some younger bulls, sired by Royal Chief No. 18543; also some Fall Poland China shoats of both sexes. Come or write.

REGISTERED GUERNSEY CATTLE

Of all ages, for sale, including a 2-year old Bull, from a tested dam.

Also 2 grade Cows and a tested 2 yr. old Bull.

G. M. WALLACE,
FALMOUTH, VA.



O. I. C. PIGS FROM REG. STOCK.

FOR SALE. PRICES RIGHT.

F. S. MICHIE, Charlottesville, Va.

Angus Cattle for Sale LOW.

- 1 Reg. Bull Calf. 8 mos. old.
 3 $\frac{3}{4}$ Grade Angus Bull Calves.
 3 16-16 Grade Angus Bull Calves.
 1 Bull Calf out of a fine Short Horn Cow by our Angus Bull.
 These grades calves look like thoroughbreds, and will please the most fastidious.
 1 First Class Family Milk Cow, 4 years old, qualities perfect.
 A splendid location for a saw-mill. $\frac{2}{3}$ to 3 million feet, $\frac{1}{4}$ Oak and $\frac{3}{4}$ Pine. One half mile from Railroad.

W. M. Watkins & Sons, Saxe, Va.

- I OFFER —
2 Reg. Ayrshire Bulls,
 One 10 mos. old PRICE, \$40.00.
 One coming 3 yrs. old PRICE, \$65.00.
 Low considering Quality.
 Registered and high grade HAMPSHIREDOWN SHEEP of best breeding. Rams, Ewes and Lambs for sale. Stock and Prices will suit.
 J. D. THOMAS, Round Hill Va.
 Meadow Brook Stock Farm.

FOR SALE.

Having rented my river farm, will sell new MCCORMICK SELF BINDER. Also 36 head of COTSWOLD Ewes, two to four years old, and bred to full blood HAMPSHIREDOWN Buck, to lamb in April.

Address JOHN MATHEWS,
EAST RICHMOND, VA.

...WOODLAND FARM.

DORSET SHEEP,

Beardless Barley,

The best known nurse crop.

J. E. WING & BROS., Mechanicsburg, O.

...BARGAINS...

DORSETS AND HEREFORDS

H. ARMSTRONG, LANTZ MILLS, VA.

Reg. Devon Bull.

1 year old for sale. Price, \$50 f. o. b. cars RICHMOND, VA. A fine animal. J. W. C. GRAVES, Glen Allen, Va.

— FOR SALE —

Cross bred JERSEY and DURHAM heifer. Soon fresh. Cross bred JERSEY and ALDERNEY cow calf. Fine blood mare. Saddle stock. M. R. WALLACE, Golansville, Va.

Mention the SOUTHERN PLANTER in writing.

ists of its own on most subjects, men who are trained and have given their lives to the study of their particular branches. If any agricultural subject comes to the fore upon which the agents of the department themselves are not entirely conversant, the secretary contracts with some acknowledged authority for a special report or article on the subject, in order to place the results of this man's knowledge and experience before the American farm public. It is true that we issue a vast number of bulletins and farm pamphlets, and we are always more than glad to send out anything we have when we believe it is appreciated, nevertheless it is probable that there are hundreds of thousands of farmers, who, if they knew more of the excellence of some of these farm bulletins, would do much to secure copies of them."

A German test noted by the Department of Agriculture shows that transplanting carrots apparently interferes with the growth of the tap root and induces abnormal forms, such as occur here and there from hoeing or cultivating. While they are irregular in shape, the transplanted roots are usually larger.

All of the Seed catalogues contain several pages of unusual novelties. These are in each case described as new strains and varieties discovered and bred up under peculiar conditions, so that they are far and away ahead of anything else of the kind, for earliness, size, flavor, etc. The farmer who might be figuring on doing a little extra gardening with a view of supplying the village might get the impression from reading of these novelties that all he would have to do would be to get a sufficient supply of certain of these extra early things, and if his neighbors didn't happen to see the wonderful discovery made by the seed house running the Springfield Farm, he would have a scoop on the community with these wonderful varieties, which would enable him to sell everything he could raise at fancy prices. Proceeding on such a theory would certainly bring disappointment. The novelty pages are in the catalogues every year, and it is well enough to let them alone or patronize them sparingly.

Consul Guenther sends in a government report on the extent of the perfume industry in the city of Grasse, Germany. Over two million and a half pounds of roses are used and over half a million pounds of orange flowers annually. The so-called oil of roses is manufactured from a grass, and the oil of geranium is produced from a flower in no way resembling that plant. It might be assumed that new mown hay extract would be the principal perfume product of that city.

TOBACCO.

High Grade Smoking
Tobacco.

We will give the Smoker direct for 35 CENTS PER LB. in 5 lb. boxes, as fine a pipe and cigarette tobacco as is made. Send us \$1.75 and be convinced. The regular retail price of this stock is 42 cents per lb.

The Richmond Merchandise & Trading Co.,
Box 149. Richmond, Va.

— COLLIE PUPS —
 By Imported Sires, sable and white and tri-colors. Prices \$8 to \$15. Older ones correspondingly low. Book on Training, 50 cents; FREE if you buy a Collie. MAPLEMONT STOCK FARM, Albany, Vermont.

"Crop Growing and Crop Feeding."

BY PROF. W. F. MASSEY.
 383 Pp. Cloth, \$1.00; Paper, 60c.

We offer this splendid work in connection with the SOUTHERN PLANTER at the following prices:
 Southern Planter and Cloth Bound Volume, \$1.25.
 Southern Planter and Paper Bound Volume, 90c.
 Old or new subscriptions.

The RICHMOND. FREDERICKSBURG and POTOMAC R. R.

and WASHINGTON SOUTHERN RY
 THE RICHMOND-WASHINGTON LINE.

The Link Connecting the
 Atlantic Coast Line R. R.,
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Between all Points via Richmond, Va.
 Fast Mail, Passenger, Express and Freight Route between Richmond, Fredericksburg, Alexandria, Washington, Baltimore, Philadelphia, New York, Boston, Pittsburg, Buffalo, and all points North, South, East and West.

W. D. DUKE, C. W. CULP,
 General Manager. Asst. Gen'l Man.
 W. P. TAYLOR, Traffic Manager.

Mention the SOUTHERN PLANTER in writing.

During the early years of the Republic patents were granted at the rate of seven or eight a year, and in Washington's first term when patent applications were presented to the government, they were passed upon by the President and his Cabinet in regular cabinet meeting. Later a patent office was established and a commissioner of patents appointed. The Department of Agriculture sprang from the Patent Office. When Henry L. Ellsworth was commissioner, in 1839, he recommended to Congress an appropriation of \$30,000, which was made, for the collection of agricultural statistics, investigations for promoting agricultural and rural economy and the procurement of useful cuttings and seeds for gratuitous distribution among farmers. Mr. Ellsworth never dreamed how his free seed idea was to grow, and at the same time degenerate into a scheme to help Congressmen get re-elected.

The Sunset Magazine says that the way to cook a goose is—first, after getting the goose, to skin it, since the skin carries a strong odor, and if left on while being cooked will flavor the whole flesh. Skinning birds of various kinds is practiced by many sportsmen and hunters. An expert can skin much quicker than he can pick a bird. I have often skinned birds for camp cooking, but believe I prefer to eat the bird with the skin on. This calls to mind also the practice of skinning fish. This is really an excellent idea, and skinning a fish when one knows how takes much less time than scaling it. Nothing is so unpleasant, too, as finding scales in your fried fish, unless it is cores in baked apples.

"The Dairy Herd: Its Formation and Management," designated as farmers' bulletin No. 55, has been revised and reprinted by the Department of Agriculture. This bulletin has been in steady and constant demand since its preparation some years ago by Major Alvord, the chief of the Dairy Division. Major Alvord is himself a practical farmer, wears boots and lives on a farm out in Virginia, an hour's ride from Washington, and reading this bulletin seems like talking with any up-to-date, wide-awake dairyman farmer, who has had the advantage of travelling around and getting in touch with the operations of other successful and prominent dairymen.

Another farm bulletin which the Department of Agriculture has had to revise and reprint because of a large demand for it is No. 22, "The Feeding of Farm Animals." This bulletin has gone into the hands of tens of thousands of farmers, and has been reprinted by the Department seven or eight times.

Local agencies and complete repair stocks everywhere

MILWAUKEE HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

THE GROVE STOCK FARM

— I OFFER THIS MONTH —

5 Dorset Rams,

1 YEAR OLD, REGISTERED. PRICE TO INCLUDE TRANSFER.

1 HOLSTEIN FRIESIAN Bull, 18 months old, sired by "Sir Netherland of the Grove," Dam "Floyd Reynolds." Also 3 young bulls, 9 months old, sire of these bulls has 24 of his nearest ancestors that gave 21 lbs. of butter in 7 days.

T. O. SANDY, Burkeville, Va.

N. & W. AND SOUTHERN R. R.

CISMONT DORSETS

CISMONT STOCK FARM offers well developed young Dorsets of the best blood of England and America.

Prices Reasonable.

G. S. LINDENKOH, Keswick, Albemarle Co., Va.

LARGE YORKSHIRE HOGS

THE COMING BACON BREED—
THE MOST PROLIFIC BREED—

48 pigs from four litters, ready for December delivery—our Fall prices always the lowest.

INDIAN GAMES, the fashionable table fowl.

WHITE LEGHORNS, the greatest layers.

WHITE WYANDOTTES, the best all round fowl. Also

JERSEY BULLS and HEIFERS from cows with recorded butter tests of 18 to 24 lbs. in 7 days.

BOWMONT FARMS. Salem, Va.

The Department has an illustrated bulletin in press descriptive of the various weeds used in medicine. A glimpse of the advance proofs shows illustrations of such common things as burdock, dandelion, poke weed, mullein, catnip, thistles, jimson weed, etc., and the subject might seem of entire unimportance, but it is a fact that certain of our best known weeds now either generally or locally infesting the country, are the sources of crude drugs, which are imported into the country in large quantities. Some of the plants coming within this class are in many States at present subject to anti-weed laws and farmers are required to take measures toward their extermination. Often when weeds have been dug, the work of handling and curing them is not exhaustive, and might even prove a diversion for the little boy on the farm, especially if he were going to make a few pennies out of it. The prices paid for crude drugs from these sources are not great, and would hardly tempt any one to pursue this exclusive line of business. The bulletin in question gives considerable information as to the methods of collecting and preparing the weeds which produce these drugs. Primarily the leaves or roots must be thoroughly dried, otherwise they will mold in transit and be rejected by the drug dealer to the discouragement of the collector. The description of the various weeds from which these drugs can be obtained comprises their several local names, their localities and habits of growth and the usefulness of the drug derived; also the imports of the drugs to the United States, and the average price.

GUY E. MITCHELL.

IN DARKEST RUSSIA.

The Russo-Japan war, should it be prolonged, will create a boom in wheat such as has never before been experienced, all of which is now an actuality. It is perhaps not generally known that Russia is a great producer of wheat and that the great wheat industry of Russia and Siberia formidably rivals that of America. The development of wheat growing in Russia as in America has been largely due to the use of American harvesting machinery.

The Deering Binder, Mower and Reaper are as common sights in a Russian field as in this country, and their use elicits the same enthusiastic praise in Russia and all European countries as is given by the American farmer.

B. B. FENCE STAYS.

The B. B. Fence Co. sends us an interesting illustrated circular showing the use of their well known fence stays. Refer to the ad and send for the pamphlet.

Ponies, Ponies, Ponies,

Shetland Ponies, Stallions, Geldings, Mares, Mares in foal, Matched Pairs, Teams Tandem \$135 to \$250 each delivered. ❀ ❀ ❀

We keep no books. ❀ Terms Cash, F. O. B.

OCCONEECHEE FARM,

JULIAN S. CARR, Proprietor,

DURHAM, N. C.

ALL KINDS OF Fancy Poultry and Eggs for Hatching. Pheasant Eggs, \$5.00 for 10. PIGS, PIGS, PIGS, Berkshires, Poland Chinas, Essex and Yorkshire, Shropshire and Dorset Sheep. Fine milch Cows, Jersey Strain.

If it comes from OCCONEECHEE, it's all right.

SUNNY HOME HERD OF

ABERDEEN-ANGUS CATTLE.

BARON ROSEBOY 57666 by the world famous

CSC

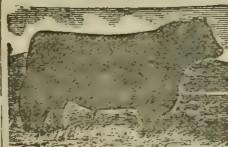
GAY BLACKBIRD heads the herd.

Females by such noted sires as Gay Blackbird, 14443, (sire of the highest priced American bred Angus bull), Ermon 18171, (by the champion sire of females Royal Eric), Eulalie Eric 15568, (2nd prize yearling bull at World's Columbian), Beau Bill 12637 (champion of the West for two years), Baron Ida 20184 (champion at N. Y. State Fair 1898), Baronet of Advia 1226 (by the "Judge" champion of the world).

Families represented in the herd are Coquette, Queen Mother, Nosegay, Westertown Rose, Old Rose of Advia, Violet, etc. We claim for our herd as good breeding as any herd in America. The individual animals in the herd have been selected with the one aim "quality" in view. Come and see, or write your order and let us guarantee a first-class animal.

Shipping point and depot, Fitzgerald, N. C., on D. & W., 24 miles S.W. of Danville, Va.

A. L. FRENCH, R. F. D. 2, Byrdville, Va.



ABERDEEN ANGUS BULLS AT A BARGAIN.

For the next 30 days, you can buy Registered Bulls low, Herd headed by **Allenhurst King IV**, 47199, greatest son of **McHenry B** back 20, 32499. Pan American champion. Come and see or Address **W. P. ALLEN**, Prop. of **Glen Allen Stock Farm**, Walnut Hill, Va.

...Jersey and Guernsey Heifers... FOR SALE

Berkshire sows due to farrow in April and May, several boars large enough for service, pigs in pairs or trios not akin.

EGGS FOR HATCHING from Bronze turkeys, Pekin ducks, B. P. Rock and Brown Leghorn fowls. A few trios for sale, also a fine lot of Fox Terrier puppies by imported Rozanne.

M. B. ROWE & CO., Fredericksburg, Va.

APOTHEOSIS OF THE APPLE.

Twenty Carloads of Fruit to be Distributed Free at the World's Fair. This is to Take Place on Apple Day—September 27—Apple Consumers' League to Promote the Interests of This Luscious Product as a Food.

BY ROBERT'S LOVE.

St. Louis, Mo.—The day of the apotheosis of the apple has been set. September 27 next is the date. That will be "Apple Day" at the World's Fair. The secretary of ceremonies, with the approval of the committee on ceremonies, has set aside that day for the special honor of the apple. Thus, after waiting many years for recognition, the big red apple and his lesser brothers are to receive a signal honor. After that day he will be Sir Knight or Saint Apple.

This novel and interesting idea originated with Mr. John T. Stinson, superintendent of pomology, department of horticulture for the World's Fair. Mr. Stinson's special protegee in the fruit line is the apple. As chief of the Horticultural Experiment Station at Mountain Grove, Mo., he had occasion to study the apple in its native glory, in the great orchards in Southwest Missouri which is called the "land of the Big Red Apple." He is a member of the executive committee and statistician of the American Apple Growers' Congress, which met in St. Louis not long ago, and at that meeting he suggested that an "Apple Day" be named, on which every visitor to the World's Fair should be presented with a few eating apples. The congress adopted the suggestion with alacrity, Barkis being willin', Col. Culp, of the committee on ceremonies, named the day.

So it comes about that the 27th of September is to be made memorable as Apple Day. Already the mouths of many thousands of prospective fair visitors are beginning to "water," in anticipation of a treat of the popular fruit. Already the devotees of the apple have begun arrangements to make the ceremonies of that day vivid with variety, so that the fame of the apple may be spread even unto the uttermost parts of the earth.

Every man, woman and child who attends the exposition on that day is to be presented with three or four fine apples, daintily wrapped in tissue paper, on which will be printed the local habitation and the name of each apple. The person eating the apple will enjoy the added pleasure of knowing what kind of apple it is and where it came from.

This free apple distribution will not be so simple an affair as it may seem on the surface. September is one of the golden months for exposition attendance. The management confidently expects to have about 300,000 persons in attendance if the day be bright. Estimating the attendance at 300,000 and allowing three or four apples to each guest, we

Save Time, Labor and Money

by having a threshing and power outfit of your own.
This No. 3 Pennsylvania Thresher and Cleaner and Roller Baring Level Tread Power is the best individual outfit for threshing rye, barley, oats, flax, rice, alfalfa, millet, sorghum, timothy, etc. Will thresh and clean 100 to 150 bushels of wheat per day. Also make in two and three horse sizes. Power can be used for engine, mill and dry feed, shelling all kinds of grain, to run the saw, press, horse cutter, pump, water, portable crane, churn, etc. Also make lever powers, Ford and Potlidge Powers, Grinders, Saws, etc. Hoesher & Sons, 23 Broad St., New York, Pa.



ROSEMONT HEREFORDS.

HEADED BY THE FAMOUS ACROBAT 68460,

Choose young stock for sale at all times. Visitors welcome. Come and inspect the best herd in the South

ROSEMONT FARM, Berryville, Clarke Co., Va.



ACROBAT 68460.

Bacon Hall Farm.

Hereford Cattle :- Berkshire Hogs

REGISTERED—ALL AGES.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

E. M. GILLET & SON, - Glencoe, Maryland.

Hereford Cattle.

The BEST to be had, both in BLOOD LINES and INDIVIDUAL EXCELLENCE, are to be found here at prices which can not be duplicated.

I have for sale now, 1 year old Bull by Lars, Jr 85297, and 4 Bull Calves by Imported Salisbury 76059. Salisbury Bull Calves are in great demand; better see about one before it is too late. Write for particulars.

Murray Boocock, Owner Castalia Herefords,

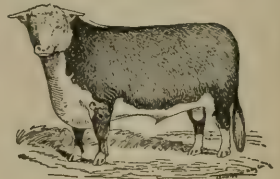
Keswick, Alb. Co., Va.

Registered Herefords,

Herd headed by the Grand Champion

American Royal Show

PRINCE RUPERT, 79539.



PRINCE RUPERT, 79539.

Special Offer:

Three Bull Calves, 10 to 14 months old.

Two Cows, young, bred to Prince Rupert.

All Inquiries Cheerfully Answered.

EDWARD G. BUTLER, Amfield Farms, BRIGGS, Clarke Co., Va.

have, in round numbers, 1,000,000 apples to be given away.

There are three hundred apples on an average, to a barrel, and 150 barrels to a carload. A very little figuring will show that more than twenty carloads of the fruit will be required.

The object of this distribution of apples, aside from the temporary delight which the feast will afford, is to promote the interests of the apple as a food. The American Apple Growers' Congress is engaged in a systematic exploitation of the apple, to the end that it may be adopted as a regular food, either raw or cooked in any one of a hundred ways, for a still greater portion of humanity than is using it at present. The apple is bidding for the place of the potato as a universal edible, and the congress hopes to demonstrate its value as a health food at the World's Fair. In furtherance of this end, a considerable quantity of apple literature is to be distributed on Apple Day and other days.

THE GILTNER HEREFORD SALE AT AUBURN, ALA., FEBRUARY 27, 1904.

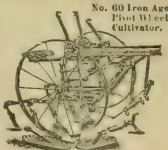
The appreciation of the efforts of Giltner Bros., is best told by the crowd of over 800 stockmen, representative of every State in the entire South, that thronged the little City of Auburn, to attend this sale.

Fifty-three head of Registered Herefords, ranging in age from four months to mature cows, sold for an average of \$214 per head. The highest price, \$450, was twice reached, once for that grand old matron, Prairie Rose (in calf to the phenomenal "Britisher"), which went to the famous "Herbert Domain" of J. O. Kittel, of Tennessee; and again when the sensationally good heifer, Mlle. Lamp-lighter, was purchased by W. Thornton, at the same figure, as a cornerstone in the splendid herd he is founding at his Talledega Farms. Carnation 16th and Carnation 19th, two beautiful daughters of Acrobat, and in calf to Britisher, sold for \$420 and \$400 respectively, showing how the best are appreciated, even in the South.

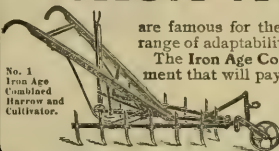
Hazel Dean, a crack son of old Acrobat, was the first bull to sell at the high water mark for males, \$400, at which figure he went to Mr. Beattie, the land and sugar king of Cuba, who also purchased six other head of the choicer kinds. Laddie, the most phenomenally short-legged, blocky calf that has yet come under the observation of the writer, went to head the herd of the Alabama Live Stock Co., at the same price, \$400. Mr. Strete, of Alabama, The Southern Cattle Co., of Florida, and Mr. C. H. Davis, of Georgia, were among the largest buyers, and each secured the nucleus of a magnificent herd. The cattle sold to eight different States, and Cuba,

SURE!

The Iron Age Cultivators are made of best steel, wood, malleable and grey iron, and are handsomely finished. By using the best materials we are able to build them light, yet strong. They do not wear "rickety." The Iron Age Pivot Wheel Cultivator is to-day the leading implement of its kind.



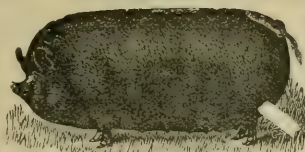
IRON AGE IMPLEMENTS



are famous for their ease of adjustment, easy draft, and wide range of adaptability to every condition of soil and crop.

The Iron Age Combined Harrow and Cultivator is an implement that will pay for itself time and again in the cultivation of crops that require especial care. Send for the New Iron Age Book that describes the entire line. It's free.

BATEMAN MFG. CO., Box 167 Greenluch, N. J.



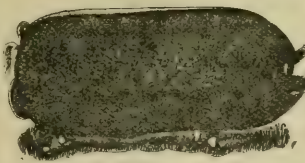
HILL TOP STOCK FARM. Berkshire Hogs and Southdown Sheep

A SPECIALTY

S. Brown Allen, who succeeds H. A. S. Hamilton & Co. in the ownership and management of this celebrated Stock Farm, with increased facilities, will make a specialty of breeding Berkshire Hogs and Southdown Sheep, without regard to cost, from the purest and most royal strains of imported blood.

My BERKSHIRE PIGS

For this Spring delivery will weigh 100 pounds at 12 weeks of age, and for INDIVIDUAL MERIT cannot be excelled in the United States. They will make show hogs against any and all competitors and are being engaged every day. The last of my Fall and winter pigs have been sold, and orders will only be taken for Spring delivery. S. BROWN ALLEN, Staunton, Virginia, (Successor to H. A. S. HAMILTON & Co.)



I am now prepared to book orders for pigs from imported Kingstone Poetess, bred by C.C. Smith, Kingstone Commons, England. Also from Queen of Fassifern, bred by James Lawrence, of Shrivensham, England. Also from Queen Alfreda, from imported Loyal Mason, imported Loyal Berks, imported Princess Alfreda, Prince Alfred, etc. These are as fine as the world can produce, though I cannot expect fancy prices for them like some breeders get. Bacon your mongrels and start aright in the hog business. Remember me when pricing *shorthorns* (Durhams).

THOS. S. WHITE, Fassifern Stock Farm, LEXINGTON, VIRGINIA.

FOR
SALE

BERKSHIRE BOARS

6 months old, right in every way.

JERSEY BULL CALVES,

from superior cows.

Forest Home Farm,

Purcellville,

Virginia

and the good seed thus scattered will prove a wonderful power for good in the South, and cannot but work miracles in the cattle conditions in the South. The fight of Giltner Bros., with their superb Herefords will rebound to the good of all improved breeds. It is not the fight of the Herefords alone but the fight of the best of pure-bloods against the scrub.

The far-reaching value of this Giltner sale in the South, and its benefits, possibly can never be estimated. Aside from the seed of good blood that was thus broadcast over the South and the good sure to result therefrom; of far greater worth to the South was this practical demonstration of what really good cattle are. An object lesson of incalculable value has been given the South, and a standard of excellence furnished. The days of the scrub, pedigreed, "lost pedigreed" or just plain old scrub, is numbered. In the future the South will now demand the choicer types of pure breeds. A mighty howl and growl may be expected from those peddlers and pinhookers of grades and scrubs in the South, vultures always in live stock advancement, who find themselves bereft of the opportunity to longer prey on the confidence and credulity of Southerners.

IN MANY FENCE FACTORIES.

One man can attend to two, three or even six looms at a time. Their fences are entirely machine made, but in our factory it requires one man attending to one Page loom every minute, and he has to handle every crossbar separately and by hand. If you notice the construction of Page fence you will see that it is different from all others, and also that it requires hand labor on every foot of the fence, that cannot be done by machinery. This costs a trifle more, but we think it is worth all it costs, as the fence gets constant personal attention during the process of manufacture.—Page Fence Age.

VIRGINIA HILL POULTRY FARM.

This poultry farm has an advertisement in another column, to which we invite the attention of our readers. We also suggest that they send for the 1904 catalogue of this concern, if they are interested in Plymouth Rocks. It will be mailed free on application.

A BOOK OF FARM SCENES.

The Keystone Farm Machine Co. of York, Pa., has issued a new catalogue under the above title. This catalogue gives views of the "Hallowell" and "Keystone Adjustable" weeders at work among the various crops. Numbers of our readers already appreciate the fact that a weeder is an indispensable tool on the farm. To those who have never used one, we suggest that they write for this catalogue. It will be mailed free and we assure them that it is well worth having.

Local agencies and complete repair stocks everywhere

McCORMICK HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

BIG BARGAINS

IN ABERDEEN-ANGUS BULL CALVES.

For prompt sale we offer as follows:

1 YEARLING BULL FOR	\$75.00
2 8 MOS. CALVES, EACH	\$50.00
2 "	\$40.00

These calves are sired by our Bull Marvill, No. 40391, (direct descendant of the world-famous Gay Blackbird) out of as pure blooded cows as are to be found anywhere. These calves are in good condition, and fine specimens as to form, color, etc. Remember the bull is half the herd—therefore get the best. Come and see them or write

WILSON BROS. & CO., - News Ferry, Va.

THE - OAKS - STOCK - FARM.

A. W. HARMAN, Jr., Prop.

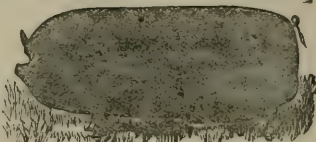
We breed and ship the best strains of

Large ENGLISH BERKSHIRES

Send us your order and get the best.

A Large Registered English Berkshire Boar, 1½ years old, extra fine specimen FOR SALE. None better bred in this country. 6 coming 2 year old JERSEY HEIFERS for sale; also 2 fine Jersey Cows; 1 yearling heifer, a perfect beauty. Write for price.

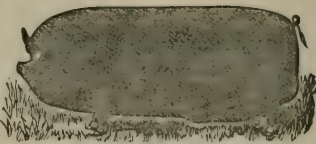
ALEX. HARMAN, Mgr., Lexington, Va.



We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

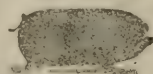
Proprietor of the Bridge Creek Stock Farm, Warrenton, N. C.



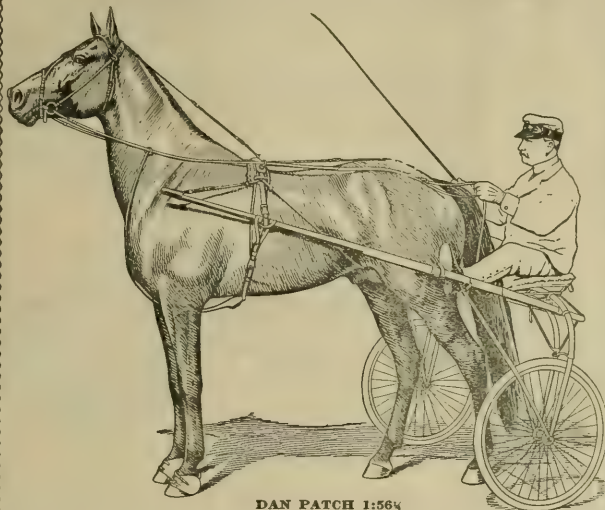
ESSEX PIGS.

Some fine ones, 3 mos. old, not related; from recorded stock, also Southdown and Hampshiredown Lambs. Address

L. G. JONES,
Tobaccoville, N. C.



A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.



DAN PATCH 1:56 1/4

DAN PATCH 1:56 1/4

Fastest Harness Horse IN THE WORLD

HOLDS FOLLOWING WORLD RECORDS:

Mile Record,	1:56 1/4
Half-Mile Record,	0:56
Mile Record on Half-Mile Track,	2:03 1/4
Mile Record to Wagon,	1:57 1/4
Mile Record to High Wheel Sulky,	2:04 1/4
Two-Mile Record,	4:17

HIS BEAUTIFUL COLORED PICTURE FREE

PRINTED IN SIX BRILLIANT COLORS
Size 21 by 28 inches

We own the World-Famous, Champion Pacing Stallion, Dan Patch, and have Fine Lithographs of him. They give a complete record of all his Races and Fast Miles and are Free of Advertising. The fine, large Colored Lithograph shows Dan hitched to sulky just as you see him in this engraving.

IT WILL BE MAILED TO YOU FREE

Postage Prepaid

IF YOU ANSWER THESE TWO QUESTIONS—AT ONCE

1st.—How Much Stock Of All Kinds Do You Own?

2nd.—Name Paper In Which You Saw This Offer.

Write to

International Stock Food Co.

Minneapolis, Minn., U. S. A.

SPRING'S WORK IN EASTERN VIRGINIA.

Editor Southern Planter.

Notwithstanding the unusually cool winter, and the late backward spring, the great potato crop is now planted here, and all crops in the ground are taking on new life and growing rapidly. The fruit buds are kept back, however, and indications point to a full crop of fruit.

The full moon in April is the frost danger period here. This year we have full moon March 31st. We may look for light frosts then, but the fruit will not be out enough to damage materially. The next full moon comes the last of April, too late to bring a damaging frost, so we may safely assume that fruit is going to escape the frost entirely this spring. We are, therefore, quite sure of a good fruit year.

The winter has been unusually cool for this section. The coldest day was twelve above zero, one day in February. The coldest in January was fourteen above. We had only about four days when the thermometer went below twenty above; but we had an unusually large number of days with the thermometer between twenty-five and thirty-two above.

Large acreage of radish has been sown, and much of the crop is now up. Early peas are sown, also spring oats. The balance of the kale and spinach crop is going rapidly to Northern markets. These two last named crops have done usually well—bringing good prices all winter.

EDGEWOOD STOCK FARM DORSETS DORSETS

You men in the early lamb business need Dorset blood. No lamb grows like a grade Dorset. Grade Dorset ewes will lamb in December.

One or as will bring results. Try a Dorset ram. Our fall lambs are beauties. Write us or come to see them.

J. D. and H. B. ARBUCKLE, Maxwelton, Greenbrier Co., W. Va.

—REGISTERED— POLAND-CHINA

Pigs from 4 to 6 months old. Boars ready for service, and young sows with pigs. Tamworth pigs 8 wks. old \$5. Prices Reasonable. Apply to

J. C. GRAVES, Barboursville, Va.

—THE OAKS— OFFERS FOR SALE AT LOW PRICES 2 SHORTHORN BULLS,

Rising 1 yr. old; a solid red with white points and a rich red roan. Eligible to registry. Also a pair of MORGAN COLTS, 13 hands, 2 inches high. B. B. BUCHANAN, Bedford City, Va.

SPECIAL BARGAINS IN HOLSTEIN-FRESIANS.

From a few months to 1 year old, from damsthat are large producers, and with strong, official backing on both sides. The sire is half the herd; it is important that you get the right one. We have that kind, and our prices are no higher than others are asking. LARGE ENGLISH BERKSHIRES, by such sires as Manor Faithful Imp., Esau Princess of Milton, by Esau Imp., Fancy Duke, a double G. son of Loyal Berks. Address

URY STOCK FARM,

THOS. FASSIT & SONS, Sylmar, Md.

Spinach sown the last part of August and first part of September sold in the field in December for two hundred dollars per acre in some cases. The price of spinach in New York going as high as five to seven dollars per barrel. The cabbage crop is a light one. Last year we had 365,000 barrels. This year we doubt it's reaching half that amount. All the early green crops are going to pay well this spring. The demand for green stuff in Northern markets is increasing each year.

There has been fear expressed that the trucking business would be overdone, but when we consider that, measured by freight rate, this important trucking section is not more than twenty-five miles from ten million consumers, at the North and East, we see that there is but little danger of over-production.

We may remark, in passing, that, owing principally to the warm mild and genial influences of the "Gulf Stream," this important trucking section, while only twenty-five miles from New York, measured by freight rates, is fully one thousand miles south of New York measured climatically. Thus we see the climatic advantages and the commercial advantages of this seaport section of the Sunny South.

These facts, together with many others, insure for this great trucking section both a permanent and rapid development.

A. JEFFERS.

Norfolk, Va.

THE MIETZ & WEISS KEROSENE ENGINE.

Among the numerous Kerosene Engines on the market, few have the claim for as many strong points as Mietz & Weiss 2-Cylinder Marine Engine, advertised in this issue by Mr. A. Mietz, 128 Mott St., New York City. This engine was minutely described in a recent issue of the "Iron Age" and a most flattering mention made of it. As this engine is especially adapted for farm work, such as sawing, separating cream, shelling corn, cleaning wheat and grain, etc., our readers are naturally interested in it. We, therefore, ask them to look up the advertisement and send for catalogue and prices, stating about what horse power they probably need.

WHY SHE HAD NO MONEY.

A young man of Montana went to church with his best girl. Both were quite honest and modest. When the collection was being taken up the young man explored his pockets and whispered to the young lady: "I haven't a cent. I changed my pants." In the meantime the young lady had been searching in her pockets and, finding nothing, blushed a rosy red as she stammered: "I'm in the same predicament."—Ophir (Col.) Mail.

Local agencies and complete repair stocks everywhere

DEERING HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

MEAT AND EGGS

DO YOU WANT THEM NEXT WINTER AND SPRING?


Then why not get eggs from probably the largest egg and broiler plant in the state.

My stock is thoroughbred

BARRED PLYMOUTH ROCKS,

bred to lay. The broilers of this breed are given a strong preference on the Richmond market. Eggs \$1.00 per 15; \$2.00 per 40; \$4.00 per 100.


ADDRESS **H. C. WARD,** East Richmond P. O.
R. F. D. No. 3, Va.



Barred Plymouth Rocks

Pope & Pope

Proprietors—Corry Nook Poultry Farm
Louisville, Ky.



...EGGS FOR HATCHING...

Our yards are noted for the size, vigor and health of the birds. They are big fellows, prize winners and heavy layers. Our matings for this season are especially fine, and, if you want ribbon winners, it will pay you to order eggs from us. Corry Nook Farm is one of the most perfectly equipped plants of its size in America. Headed by birds scoring 21-12 to 21-12. We cull our eggs closely. They will give you fine, sturdy chicks. Price, \$2.00 per setting of 15 packed in our special baskets. Send for Illustrated Catalogue—free.

POPE & POPE, LOUISVILLE, KY.

S. C. WHITE LEGHORNS

Of fine quality. Great laying strain. Prices very reasonable. Satisfaction guaranteed. Write for prices before buying elsewhere. C. G. F. FINK, R. F. D. 2, Richmond Va



The **ROCKER CHURN**

Gets the butter from the cream down to the one thousandth part. Made of tasteless wood and the churning process is entirely the result of its own motion—no machinery inside or out to get out of order or require oiling.

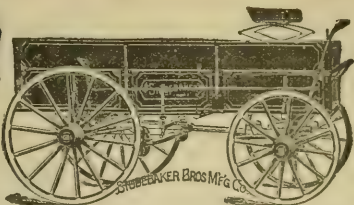
Its Special Advantages

are: 1—Simplest. 2—Least friction. 3—Gravity does the churning; a child can operate it. 4—Absolutely no adjustments, always ready. 5—Nothing but the churn box to clean, every accessible. 6—Violent action of cream without paddles or dashers. 7—Gives the finest flavored butter of any churn on the market. **WE PAY THE FREIGHT.** Your money back if not satisfied. In eight convenient sizes, \$5 to \$6 each. Five as right as the quantity. Illustrated circulars free.

Rocker Churn Mfg. Company, Forsyth, Georgia.



STUDEBAKER QUALITY



Compare a Studebaker Farm Wagon with any other, point by point—wood stock and ironing; wheels, spokes, hubs, tire and felloe; axles and skeins; boxes, gears, bolsters, paint—everything—and you will understand why the Studebaker is sold in excess of any other make in the world. The simple truth is,

The Studebaker is the Best

farm wagon ever built. We have been hammering away at farm wagons for fifty years, and we know what counts for long life and good service. We have the pick of the best lumber sawn in America; we know 55,000 feet of it drying in our yards; we have a larger and better equipped factory and we have more patented, special features than any other manufacturer. That's why more Studebakers are sold than of any other make; that's why every Studebaker customer is a satisfied customer. The same thing is true of Studebaker Carriages and Harness. They are made to last a life time. Sold only by regular dealers. Send us for Free Booklet No. 36

STUDEBAKER BROS. MFG. CO., SOUTH BEND, IND.

All Studebaker goods carried at each of the following repositories:

NEW YORK CITY: Broadway and 7th Ave., at 48th St. SALT LAKE CITY, UTAH: 157 100th St.
CHICAGO, ILL.: 5 & 38 Wabash Avenue. DENVER, COLO.: Cor. 10th & 1 Black St.
KANSAS CITY, MO.: Cor. Hickory and 13th St. DALLAS, TEXAS: 217 and 219 Elm St.
SAN FRANCISCO, CALIF.: Cor. Market & 10th St. PORTLAND, ORE.: 224 3rd St. Morrison St.

Local Agencies Wanted Everywhere.

Factory and Executive Office: South Bend, Ind.

When you go to the World's Fair, St. Louis, look up our exhibit in Transportation Bldg., and shake hands.

WHAT A BERKS CO., PA., FARMER MAKES ON A 15-ACRE FARM.

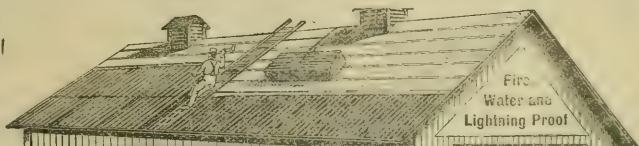
Hereford, Pa., March 5.

There has been an opinion afloat among many leading farmers that to make farming pay a farmer needed at least a 100-acre tract and a fine herd of milk cows, and that the small tracts of land, which average from ten to twenty acres, were useless, being too expensive to cultivate with profitable results.

E. H. Hertzog, of Schoenect, says such an idea is erroneous in every respect, and by proper management and systematic bookkeeping any small farm can be conducted to bring forth the most profitable results.

Mr. Hertzog is one of the State's younger farmers, and by his practical business methods he has shown that on his fifteen-acre farm he raised the following berries, vegetables, etc., during 1903:

- 941 boxes raspberries, at 10 cents per quart.
- 680 boxes of blackberries, at 7 cents per box.
- 100 boxes huckleberries, at 10 cents a box.
- 75 boxes gooseberries, at 5 cents a box.
- 25 boxes currants, at 7 cents a box.
- 300 bunches onions, at 3 cents a bunch.
- 40 bushels onions, at 80 cents a bushel.
- 1½ bunches onion sets, at \$3 per bushel.
- 4 bushels green peas, at 75 cents a bushel.
- 800 bunches radishes, at 2½ cents a bunch.
- 8 baskets peaches, at \$1.50 per basket.



New Steel Roofing and Siding

Complete with nails and painted red on both sides at

\$2.00 Per 100 Square Feet.

Most durable and economical roof covering made for houses, stores, barns, sheds, cribs, poultry houses, etc., and a hundred other purposes for inside or outside use; cheaper and will last longer than any other covering. Sheets are 6 and 8 feet long.

We Pay the Freight

to all points east of Colorado. This roofing at \$2.00 per square is our No. 10 grade, semi-hardened. Very easy to lay, requires no experience, is bolted or hammered the only fast method. Comes in Flat, Corrugated, V-Curved, Brick Siding and Beaded Ceiling or Siding. Price on application. Send us your order today for immediate shipment. Write for our catalogue No. 2 on fireproof roofing materials, wire pipe, plumbing material and a complete list of all kinds. We buy at wholesale and receive the lowest prices.

CHICAGO HOUSE WRECKING CO., 35th and Iron Sts., Chicago

SUCCESS Manure Spreader



Leads every other machine for the mechanical spreading of manure. Its superiority appears in the fact that it is a distinct improvement on the Kemp Spreader, which we still manufacture and which has been the typical Spreader for 25 years. Spreads all manures of every character and condition and all commercial fertilizers.

It covers 1000 ft. in 30 to 60 minutes; apron automatic; it returns to position in the next 6 feet driven.

A SPECIAL FEATURED MACHINE

for convenience of handling and perfection of work. Notably superior in its better Freeing device Direct Chain Beater Gear, Speed Regulation and Automatic Return of Apron. Positive and dependable in all movements. Simple in gear, lightest in draft, least chance of clogging. The driver never dismounts for any purpose but control every thing from his seat. Made in all sizes, a 4-hd. model is most guaranteed as to material, workmanship and duty. Investigate fully before buying. Catalogue with valuable chapter on farm fertilizing mailed free.

KEMP & BURPEE MANUFACTURING CO. BOX 705, SYRACUSE, N. Y.

IS YOUR FARM FOR SALE?

If so, list it with us. No sale, no charge.

Largest list of farms for sale in Virginia.

Write for Free Catalogue.

R. B. CHAFFIN & CO., (INC.) Richmond, Virginia.

4 bushels plums, at \$2 a bushel.
 50 bushels apples, at 25 cents a bushel.
 1000 pickles, at \$4.
 400 dozen roasting ear corn, at 10 cents a dozen.
 2 tons sweet corn, at \$12 per ton.
 Fox, chicken and Concord grapes, at \$4.50.
 10 bushels persimmons, at 5 cents a box.
 40 bushels tomatoes, at 60 cents a bushel.
 40 bushels soup and other beans, at \$2 a bushel.
 15 bushels artichokes, at 75 cents a bushel.
 Tobacco, worth \$40.
 125 bushels sweet potatoes, at 75 cents a bushel.
 15 bushels of walnuts, at 50 cents a bushel.
 2 bushels shellbarks, at \$1.75 per bushel.
 1 bushel Paragon chestnuts, at 30 cents a quart, or \$9.60 a bushel.
 1½ bushels chestnuts, at 18 cents a quart.
 5 dozen quinces, at 36 cents a dozen.
 100 bushels field corn, at 60 cents a bushel.
 Hay and corn fodder to feed one horse and three cows.

OTHER SOURCES OF PROFIT.

Besides, he sold some milk and butter, and has on his farm fifty apple trees, 400 peach trees, forty plum trees, one acre of raspberries and one-quarter acre of strawberries.

Not only has he paid such marked attention to the products of the soil, but his poultry yards have also been a special item in his ledger accounts. He has been raising poultry for six years, and has an incubator cellar, 14 by 17 feet, with incubator capacity for 700 eggs. Nearby is a brooder house, 62 feet long, 14 feet wide and 7 feet high, and a double-decker chicken house, 124 feet long, 16 feet wide and 12 feet high, with a capacity for 500 hens during the coldest weather. His ledger shows a net profit of \$538.78 on poultry alone for 1903, while the net profits on the products of the soil amounted to \$740.84, being a total net profit of \$1,279.60.

This proves to those advocates of large tracts what can be done on a fifteen-acre tract by a man of push and who knows how to conservatively manage such a tract.

Hertzog says he does not spend all his time on this farm, but has leisure moments to read the daily papers, agricultural journals and magazines.

UNION POULTRY FENCE.

The Union Fence Co. has a very interesting little booklet entitled "A Short Story for Poultry Raisers." All of our readers, who are interested in good cheap fencing should look up the ad. of Case Bros., Colchester, Conn. They are the Eastern agents for this concern. Don't forget to send for the pamphlet.

HOG BOOK FREE!

The points most essential to successful hog raising, as found in my 28-year experience as a specialist in the care of hogs and the treatment of their diseases are treated in a thorough and practical manner in my book, "HOG BOOK," which some experts pronounce the best book of the kind published. One hundred pages, fully illustrated. FREE if you mention this paper when asking for it.



TRADE-MARK.

CASH FOR ALL HOGS THAT DIE

When my remedy is fed as a preventive. Write for plan. This is a bona fide offer and you should consider the difference between it and the "would-be guarantee" whereby you are "promised" a refund of the cost of the preparation if results are not as claimed. A guarantee that does not put the value of the animal in your pocket, in case of loss, is unfair to you.

PRICES FOR REMEDY: 2-lb. can, \$12.50; 12-lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

JOS. HAAS, V. S., - - Indianapolis, Ind.



DR. A. C. DANIELS

Can save you Money, save your Horse, save your Mule or save your Cow.

Dr. A. C. Daniels

Home Treatment for Horses and Cattle.

Sick and Lame Horses Made Well. Weak Cows Made Strong. Better Breeders and Milkers.

Book for the asking of your druggist or dealer, or send to

DR. A. C. DANIELS, 172 Milk St., BOSTON, MASS.

Mention the PLANTER.

Farms Steadily Improved and Crops Doubled

is the verdict of customers who use

MAPES MANURES.

MAPES MANURES are made from Animal Bone and other High Grade Materials and not only increase the crops, but improve the mechanical condition and permanent productiveness of the soil. This is the great advantage Animal Bone Basis Fertilizers have over those made with Acid Phosphate as a basis. See page 76 of Wood's Seed Book, or send for special circular about Mapes Manures. Prices quoted on request.
T. W. WOOD & SONS, SEEDSMEN, Richmond, Va.

For a fine assortment of Apple Trees, a bargain in Plum Trees, fine lot of extra sized Rose Bushes, choice varieties, Hardy Ornamentals, specimen shaped bushes, Spireas, Weigelias, Deutzias, Hydrangeas, etc.,—go or apply to

GEO. E. MURRELL ORCHARD & NURSERY CO.,

Send for our Descriptive Catalogue—IT'S FREE.

Fontella, Virginia.

BILTMORE FARMS, - Biltmore, N. C.

Headquarters for GOLDENLAD JERSEYS,

Also Get of TREVARTH and GEN. MARIGOLD. ❀ ❀ ❀

GOLDEN LAD'S SUCCESSOR. First and sweepstakes over all at the Pan-American Exposition, the champion JERSEY BULL OF AMERICA, and out of Golden Ora, our great prize-winning cow, both born and developed on these Farms, is among our service bulls.

Biltmore Jerseys are a combination of large and persistent milking qualities with an individuality that wins in the show ring.

SPECIALTY. Write for descriptive circular of the best lot of young bull calves ever offered, both for breeding and individuality. They are by noted sires and out of large and tested selected dams. Many of these calves are fit to show and win in any company.



BILTMORE POULTRY YARDS.



SPECIALTY. Write for descriptive circular of eggs from our prize-winning pens. Over 50 yards to select from, made up of the winners at the leading shows for the last two seasons. If you want winners you must breed from winners.

Headquarters for the best IMPORTED ENGLISH BERKSHIRES.

APPLY TO *BILTMORE FARMS, BILTMORE, N. C.*

EGGS FOR HATCHING

The Imperial Fruit and Poultry Farm

❀ ❀ Is now booking orders for eggs for hatching from strictly pure, high-class poultry, at \$1.00 for 15 eggs, except duck eggs, which are \$1.00 for 13. ❀ ❀

BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS,
SINGLE COMB WHITE AND S. C. BROWN LEGHORNS,
SILVER LACED AND WHITE WYANDOTTE,
MAMMOTH PEKIN DUCKS.

Satisfaction Guaranteed. Write your name and address plainly.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

GOOD HOUSEKEEPING.

CREAM OF ASPARAGUS SOUP.

You may use the less expensive bunches of asparagus for this and it will be just as good.

Take one bunch of asparagus, wash it well and tie it up. Put it in a sauce pan of boiling water and let it boil for three quarters of an hour, or until the vegetable is tender. Cut off the tops and lay them aside. Put one quart of milk on in a double boiler and when it has boiled add the asparagus which must be pressed through a colander. Cream one large tablespoon of butter with two table-spoons of flour until perfectly smooth and add this to the soup now put in the tops and season with pepper, salt and a few pieces of parsley or thyme, and serve hot with toasted bread.

ASPARAGUS ON TOAST.

Wash the asparagus well and put it into a pan with as much water as will cover it well, cover it and let it boil until tender. Take it out and drain off the water. Toast the stale bread to a light brown and on each slice arrange half dozen stalks of the asparagus. Pour over these a sauce made of one pint of milk, two table-spoons of flour and one large spoon of butter. Put the butter in a pan and let it melt, not brown, then stir in the flour and add the milk. Let it cook until creamy and season with pepper and salt.

GREEN PEA SOUP.

Boil a beef bone for two hours then add the hulls of the peas and let them boil for an hour, strain out the bone and hulls and add two quarts of peas and boil another hour. About fifteen minutes before serving add two large table-spoons of flour creamed in as much butter; pepper, salt and parsley. Serve with cold bread or toast.

BAKED SHAD.

You can tell when a shad is fresh by turning up the gills and if they are a bright red it is all right. Wash it out after it has been cleaned with a little salt water and wipe dry. Return the roe to the shad. Make the dressing of stale bread crumbs, an onion, a little chopped pickle, half teaspoon of black pepper, one teaspoon of salt, a teaspoon of celery seed, one hard boiled egg chopped fine and a large spoon of butter, mix this all well and lay it between the roe and tie it up or sew it. Lay it in a well greased pan with a little flour sprinkled on the bottom and with a few pieces of nice fat bacon sprinkled on the top of the fish. Fill the pan half full of water and bake one hour in a hot oven. Serve on a hot dish and garnish with hard boiled egg and parsley.

BOILED SHAD.

Wash the shad with salt water and sprinkle salt, pepper and a little cayenne inside and sew it up in a towel.

Local agencies and complete repair stocks everywhere

CHAMPION HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.



A Washing Machine is as great a necessity in the house as a wringer

The Majestic Rotary Washer

has too many good points for explanation in an advertisement. Your name on a postal card will bring our booklet, with full particulars of our six different machines and how to get them. One of them will certainly please you. All are made with electrically welded wire hoops sunk in grooves—our patent. Being the largest manufacturers of woodenware in the world, we can make better machines for the money than any one else. If you want a machine that washes, buy one of ours.

THE RICHMOND CEDAR WORKS, Richmond, Va.



TWO CROP ESSENTIALS

are cultivation and keeping down weeds. More important than deep cultivation is keeping the surface stirred, breaking the crust due to rains, and allowing the light, air, moisture and warmth to penetrate quickly to the roots of the growing plant. For doing just these things the ideal implement is the

KEYSTONE Adjustable Weeder and Shallow Cultivator

It kills the weeds at first showing, the top soil is pulverized and kept mellow, the plant roots are not disturbed and the moist soil is not brought up to dry in the sun. Adjustable in width. Narrows to 30 inches, widens to 7½ feet. Strong and steady running. Furnished either with round teeth or with disk to suit different soils, as we are licensed to manufacture the famous Hallowell flat tooth. Write today for catalog and booklet of field scenes showing half tone pictures from photographs of weeder in actual use. Both free for the asking.

KEYSTONE FARM MACHINE CO., 1554 N. Beaver St., York, Pa.

ORGANIZED 1832.

ASSETS, \$932,050.00.

Virginia Fire and Marine

Insurance Company, of Richmond, Va.

Insures Against Fire and Lightning.

All descriptions of property in country and town, private or public, insured at fair rates, on accommodating terms.

AGENCIES IN EVERY TOWN AND COUNTY.

W. H. PALMER, President.

W. H. McCARTHY, Secretary.

WILKES. X NUTWOOD.

WEALTH, 2:10-RECORD 2:10

Sire Gambetta Wilkes, 2:19 $\frac{1}{4}$, the leading sire of 2:10 performers, leading sire of new standard performers for 1902 and 1903, with total of 147 in 2:30 list, one of the best sons of the immortal George Wilkes, one of the founders of the American trotter.



Dam, Magnolia, by Norfolk, he by Nutwood, 2:18 $\frac{1}{4}$, sire of 178 and of dams of 170. The founder of one of the best families of trotting bred horses, 2nd dam Beck Collins, dam of Choctaw, 2:30, by Woodburn Hambletonian, 1639, 3rd dam, Rebecca (thoroughbred), by Blucher. Wealth, 2:10, foaled 1897, is dark bay, 16 hands, weight 1,200 pounds, of beautiful shape, style and finish, good disposition and commanding appearance. His breeding represents the cream of trotting families, he being a cross of the Wilkes on Nutwood blood, with a strong thoroughbred foundation. His record, 2:10, is not his speed limit, as he has gone quarters and even halves at a 2 minute gait. 1903 was his first season in the stud, though he has sired a filly which trotted in 2:25 in her 2 year old form. Wealth will transmit his speed and style to his off-

spring. Mr. Cecil, owner of Gambetta Wilkes, in a letter dated January 14, 1904, says: "Wealth, 2:10, is as sure to be a very great sire as we both live." Breed to him. Mares bred at \$20. the season, with usual return privilege. Mares sent me will receive best of care at \$1.50 per month on grass, or if on grain at actual cost.

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Put some strips of wood in the bottom of the pan and lay the fish on and cover with water. Let it boil steadily for an hour. Take off the cloth and serve on a hot dish with egg sauce. A little highly seasoned dressing in the shad is an improvement.

EGG SAUCE.

Melt a large spoon of butter and blend with it two tablespoons of flour. Add a pint of stock or milk and let it thicken. To this add six hard boiled eggs chopped fine and seasoned with pepper, salt, parsley and thyme. Save some of the rings of the white of the eggs to lay over the fish with slices of lemon as a garnish.

SWEETBREADS.

Lay the sweetbreads in salt water for awhile and then parboil them until done, putting them in cold water and let it come to the boil. Drain and wipe dry. Split in half. Rub each piece with melted butter, pepper and salt and dip in beaten egg, then in cracker crumbs, lay them in a buttered pan and sift more crumbs over them and set in the stove to brown, or else fry them in deep fat.

FRIED BEEF KIDNEYS.

Plunge the kidneys in boiling water and then cut them in thin slices, season with pepper and salt and dredge well with flour and fry until done in hot lard. While they are frying make a gravy with a piece of butter the size of an egg, a large spoon of flour and pepper, salt, and a cup of water. Boil and take the fried kidneys off the griddle, put them in the gravy, add tomato or walnut catsup with parsley, thyme or sage minced and a small piece of an onion. They should simmer for a few minutes in the gravy and then they are ready for the table.

STEWED BRAINS.

Soak the brains in salt water for an hour and then pour over them hot water, which will make it easy to remove the skin. After doing this put them in a stewpan with water just to cover them and let them boil twenty minutes. Pour off the water, add one teacup of fresh milk, salt and pepper, butter the size of an egg creamed light, and let them cook for ten minutes longer. A little vinegar added after you put them in the dish is pleasant to some tastes.

BRAIN AND SWEET BREAD CROQUETTES.

Take two sets of calf brains and one set of sweetbreads. Lay the brains in salt water for an hour, and then pour boiling water on them and take off the skin. Soak the sweetbreads in warm water for thirty minutes and then plunge into boiling water to make them white. Remove the outer skin and pipes and cut into small pieces. Cook the brains and sweetbreads separately until they are done enough to be mashed very fine and let them get cold before you mix them together. Season with butter, pepper, salt, red pepper, a very little

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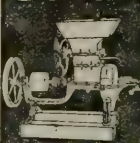


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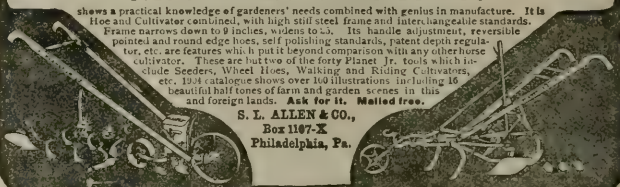
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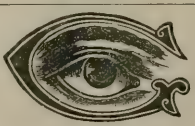
Below on the left is a tool after the gardener's own heart. It wins the approval of every one because in its many forms it suits exactly each sort of garden work. It is a Hill and Drill Planter, Double and Single Wheel Hoe, Cultivator and Plow combined. It marks out rows, all distances apart, drops in hills, 4, 6, 8, 12 or 24 inches apart, kills weeds, stirs the surface, or cultivates all depths, furrows, ridges, etc. Throws earth to or from, works between or astride rows. Its handles raise or lower to suit man or boy. Doing all kinds of garden work, its crowning virtue is that it is so quickly changed from one use to another.

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shows a practical knowledge of gardeners' needs combined with genius in manufacture. Its Hoe and Cultivator combined, with high stiff steel frame and interchangeable standards. Frame narrows down to 9 inches, widens to 3 1/2. Its handle adjustment, reversible pointed and round edge hoes, self polishing standards, patent depth regulator, etc. are features which put it beyond comparison with any other horse cultivator. These are but two of the forty Planet Jr. tools which include Seeders, Wheel Hoes, Walking and Riding Cultivators, etc. 1904 catalogue shows over 100 illustrations including 16 beautiful half tones of farm and garden scenes in this and foreign lands. Ask for it. Mailed free.

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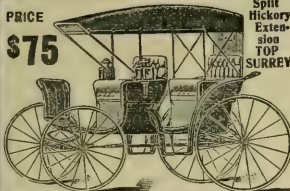
only a few of which we can mention here. Complete description is given in our catalogue and many illustrations are shown of this buggy gotten up in different combinations, as to finish, construction, etc.



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of this last, and the yolk of three hard boiled eggs powdered, mould them with the hands into round or oval-shaped pieces and dip them into beaten eggs, then into fine cracker crumbs. You can buy the cracker dust already prepared. Fry them in boiling lard deep enough to cover. Only let them stay in the fat long enough to take a light brown. Lay them on butchers paper to absorb the grease. Keep in a hot place and serve hot.

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St. Louis, Mo.—Apples of every color in the spectrum, painted mysteriously by the hidden processes of nature, are brought from every State in the Union for the greatest display of this fruit ever dreamed of in the history of universal expositions. It is arranged artistically on apple-green plaques of uniform design in the great Horticultural Palace of the World's Fair of 1904. Practically every State in the Union had the choicest selections from apple crops placed in cold storage, ready to be removed at a moment's notice in refrigerator cars and installed in the Horticultural Hall for the opening of the fair.

The artistic installation of the apple exhibits has a striking feature never before carried out at any exposition, in that all exhibitors are compelled to use plaques of the same color and design. Thus a harmonious effect is produced and the eye of the visitor is not startled by incongruous combinations of colored china and wooden plaques.

The official plaque adopted by Chief Taylor is an artistic example of the modern art of the potter. The center is white, bearing the exposition monogram, L. P. E., in apple green color, and the outer portion of the top is a broad band of apple green, with the perimeter gilt-edged.

Pomologists of the United States have written volumes on the hybridization, or crossing, of apples in order to produce new varieties of commercial value suited for growth in the climatic and other physiographic conditions of this and that section of the country. An apple that is grown successfully in Missouri might not be the most profitable in the Upper Peninsula of Michigan, and the apple from the rockbound coast of the New England States would not thrive, perhaps, on the coast of California. Science has done much for the apple grower in this respect, and the great World's Fair apple display possesses untold scientific value and educational worth in exploiting all the many successful varieties that have been produced by modern hybridization in all parts of the Union. This feature is to be prominently seen in a majority of the State exhibits, and for the first time in the history of expositions the farmer and the commercial apple grower will have the opportunity of seeing complete displays of all apples successfully produced by crossing.

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pollen from the blossom of one variety of apple and impregnating the pistil of the flower of another variety. The fruit formed from this blossom is a cross of the two varieties. The seed of this is planted. Sometimes the grower, in this way, hits upon a fine apple, but there are a thousand failures to one success.

The great State of Minnesota, which has made wonderful success in scientific hybridization, gives the world the benefit of her knowledge by showing a large number of seedlings that have proved commercially profitable in her cold climate.

Iowa, South Dakota and Wisconsin show some fine specimens of seedlings that have been hit upon after years of patient work in scientific crossing. For instance, Patent's Greening is a fine specimen from Iowa.

Aside from the seedlings the great apple exhibit shows all the well known standard varieties, and the Ben Davis from Indiana runs a close race with the Ben Davis from Missouri for popularity, and the delicious Albemarle Pippin from Old Virginia will not be forgotten alongside the Newton Pippin from California.

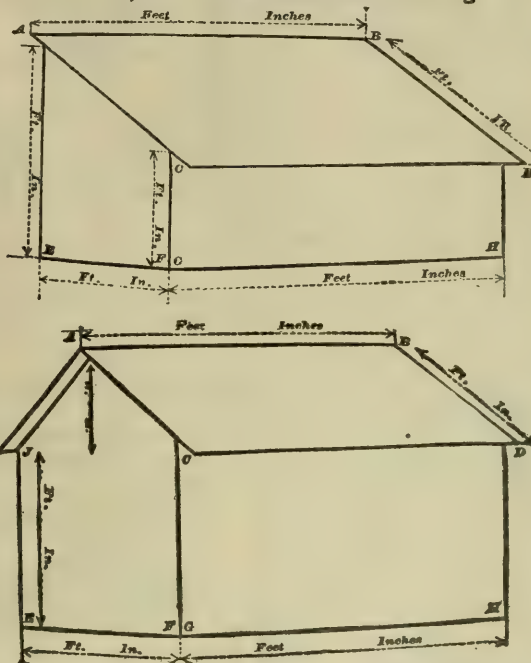
Colorado is represented by a magnificent display of all standard varieties of apples that grow to such astonishing perfection in the irrigated sections of that State. Missouri, known the world over for her fine red apples, has a fine display of standard varieties. Indiana has sent an exhibit to prove that Hoosierdom is one of the greatest producers of all kinds of apples, from the beautiful Maiden's Blush to the Winesaps and Ben Davis. Michigan is well represented, and her Northern Spy variety is especially exploited. New York makes one of the largest apple displays ever made by a single State at any exposition, and her noted Baldwins will perhaps land several blue ribbons. Arkansas displays her well known specimens of Gano, Ben Davis, Mammoth Black Twig and Winesaps, and little Rhode Island has a display the star feature of which is her far-famed Greenings.

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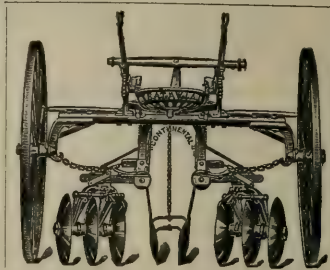
It is not uncommon to meet people who are always well shaven, but always have sore faces. In most cases the cause is in the soap used. Poor shaving soaps, common toilet and even ordinary laundry soaps are used. Nothing but sore faces are to be expected. The practice is worse than unclean—it is positively dangerous. When the very best shaving soaps, such as Williams', are to be had for so little money, there is absolutely no excuse for using unfit articles. If such people would send for the free sample of Williams' soap mentioned in the advertisement elsewhere, they would never go back to common soaps.

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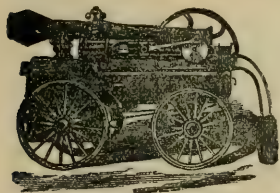
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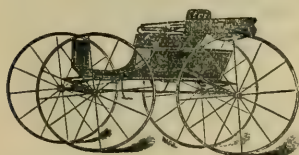
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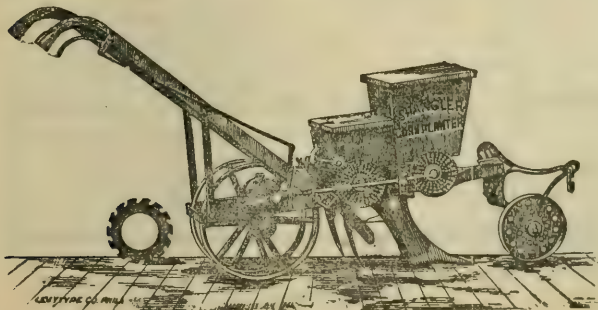
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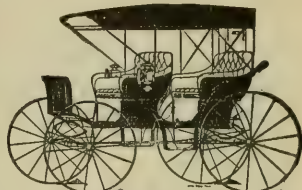
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The Spangler Corn Planter

With and Without Fertilizer Attachment

The Spangler Planter has a side gear which is convenient and practical. The quantity of corn to be dropped can be regulated instantly without changing the quantity of the fertilizer sown, or the quantity of the fertilizer can be changed without affecting the corn dropping, and either can be discontinued in an instant and not sow at all.

Hoosier Single and Double Row Planter, made entirely of steel, except handles—a very durable machine—Black Hawk, and John Deere single and double row planters.

DAN REILLY'S TEMPER.

A man has rights in these free United States of America—oceans of rights, if he but knows them—and he is a poor fellow who does not have most of them trampled upon these days. Whatever does an Irishman come all the way across the water for, and swear to uphold the constitution and by-laws of the United States for, if, by all the saints, he is going to let every one walk all over him and his rights? No wonder a man gets mad now and again. Looking at it fairly, Dan Reilly seemed to have more rights and more people stepping on them than any other man in the city. And a grand temper the little man produced out of the wrangle.

Hard on him was it to have the neighbors he had, too. It would throw any man in a temper to have neighbors who would never get a temper, and that was the trouble with Van Dusen, to the left of Reilly, and Umholt, to his right. What are neighbors for if they can't get in a sociable quarrel now and again?

There was Umholt, the tailor, now. He sat cross-legged on his long table at the window of his cottage, pulling his thread before his weak eyes all day, with never a smell of excitement, and yet in the tail of the day, when he came into his garden, never a quarrel would he have, or a hot word, or a fierce look. It was unneighborly.

"Oi do be thinkin' thim Dutch hev no blood in thim at all," said Dan to his wife, one morning after his pig had spent a voracious night in the Umholt garden. "Niver a worr'd did coud Umholt say whin he druv the pig home, an' half his cabbages gawn. Uf his pig ate up my cabbages Oi 'd l'ave him hev a bit av me molnd, now, Oi w'u'd. Phwat roight has a man to be lavin' his pigs go roamin' around devourin' up people's green truck, Oi 'd loike t' know? Bliss his sowl, Oi 'll show him! The idee! Is ut 't fat his pig Oi do be workin' me arms aff all the spring? Oi 'll hev the law on him, Oi will!"

He brought his fist down on the table with a crash that made the dishes rattle. Mrs. Reilly settled her two hundred and odd pounds comfortably back in her chair and folded her arms. She had grown fat and cheerful on forty years of Dan Reilly's temper.

"Talk sinse, Dan Reilly," she said. "No pig alovee c'u'd git out av Umholt's sty, an' ye know ut. Ut 's yer self might better be patchin' up yer own sty to kape the pig insolde, than to be blissin' ould Umholt, the poor drooled-up felly. Ut 's a good man he is, ut he do be Dutch, an' ut 's him mought better be blissin' ye an' yer pig. Wan w'u'd think 't was his pig got intil yer cabbages, to hear ye go on."

Dan shook his fist.
"Oi 'd loike to see his pig in me lot. Oi w'u'd!" he cried. "An' Oi 'd loike



SPRAY NOW

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Our Pumps used by Virginia and North Carolina Agricultural Departments
Pumps, Wind Mills, Rams, Fencing, Gasoline Engines, etc.

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THE MANUFACTURER,
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THE YORK Improved Weeder

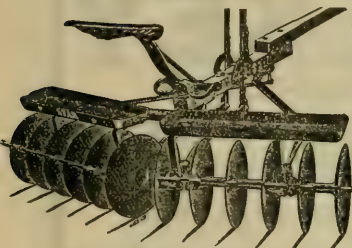
The flexibility of the teeth is the important thing in a weeder. The York Improved Weeder has teeth of square spring steel with round points. These teeth have great flexibility, and being narrow in the body, they do not whip or bruise the growing plants as flat teeth do. This style also allows more clearance and prevents clogging. Our square teeth do not break. The frame is made of strong flexible angle steel and handles and shafts are adjustable. Send for free circular. The Spangler Corn Plaster and Grain Drills are the best for you to use. SPANGLER MFG. CO., 501 Queen St., York, Pa.

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Perfected Implements for Spring Work.



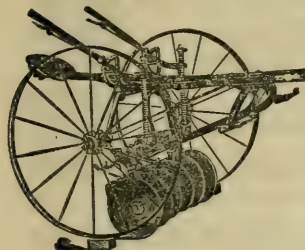
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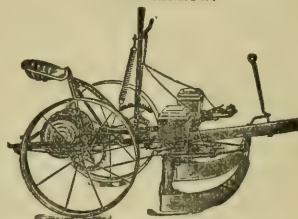
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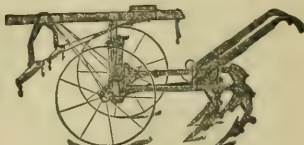
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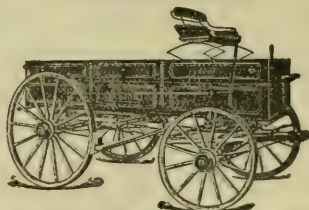
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THE NEW MOLINE.

THE CALL-WATT CO.,

MANFRED CALL, Gen'l Manager.

RICHMOND, VA.

to see him hev worruds wid me becuse me pig made free to break out av the sty! Sue me, w'u'd he? Jist let him thrty ut, the ould, droled-up tallorman. Oi 'll show him an Irishman has as good a rowght to kape a pig as a Dutchman has!"

He shook his fist savagely. He was so angry he could not hold his hand steady enough to light his pipe.

"Him!" he cried. "Him! Oi 'll show him yit, Oi will, the tame ould burrud that he is! Oi hev me rowghts!"

He crushed his soft hat upon his head and went out on the porch, where he sat on a step and glared at the in-offensive tailor, who was sewing away in his open window.

CLOVER FOR HENS.

I have fed a good deal of clover to hens this winter with excellent results. I never fed so much before and never gathered so many eggs. The clover was obtained from the barn floor and especially from the mows where the hay is pitched up and down again when fed. This is better quality than that lying around the feeding rooms. I was surprised to find so much and such good quality, as only the broken off heads and leaves are used.

The clover was prepared by either filling a large kettle, pouring on some cold water and allowing to come to a boil while tightly covered, or it was scalded with boiling water in large wooden pails. It can be fed alone or mixed with ground grain, bran, middlings and meat meal. I found the hens ate it just as well when fed alone. In fact, I used less ground grain, bran, etc., than ever before.—J. B. Lisk in American Agriculturist.

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	Price Alone.	With Planter.
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THI-WEEKLY.

The World (thrice-a-week), N. Y.	1 00	1 25
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WEEKLIES.

Harper's Weekly	4 00	4 00
Harper's Bazaar	1 00	1 40
Montgomery Advertiser	1 00	1 00
Nashville American	50	75
The Baltimore Sun	1 00	1 35
Breeder's Gazette	2 00	1 77
Heard's Dairyman	1 00	1 35
Country Gentleman	1 50	1 75
Religious Herald, Richmond, Va.	2 00	2 25
Times-Dispatch, Richmond, Va.	1 00	1 25
Central Presbyterian, " "	2 00	2 25
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Wool Markets and Sheep	50	75
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Scribner's Magazine	3 00	3 25
Frank Leslie's Magazine	1 00	1 37
Cosmopolitan Magazine	1 00	1 35
Everybody's Magazine	1 00	1 35
Munsey Magazine	1 00	1 35
Strand Magazine	1 25	1 65
McClure's Magazine	1 00	1 35
Arctos Magazine	1 00	1 35
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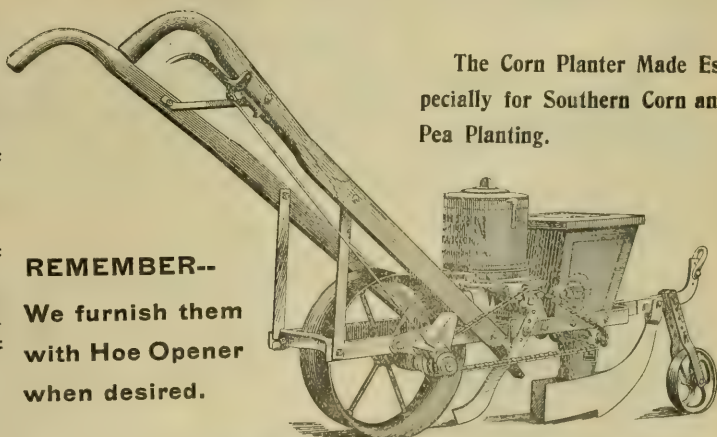
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Every grain is seen as it falls to the ground.

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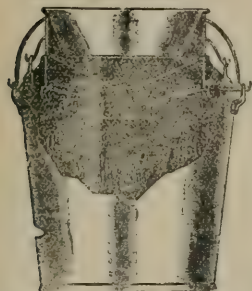
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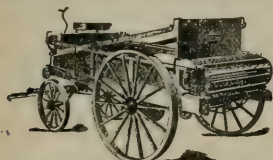
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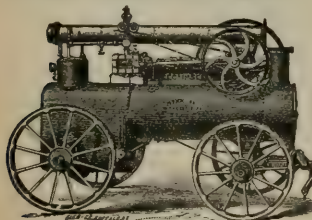


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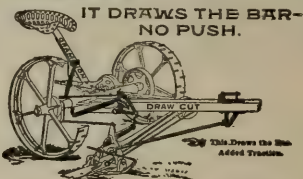
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Three Sizes,
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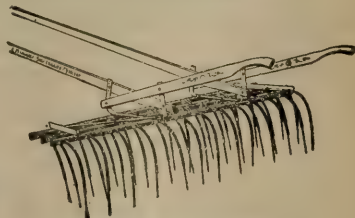
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Cultivator. All styles. Write for
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FARMER'S FRIEND Plain and Fertilizer
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TIGER Double-Row Plain Planters. TIGER
Double-Row Planters with Fertilizer and
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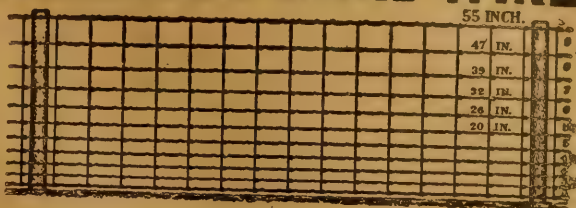


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"Bement" Improved Duplex Tooth Weeders.
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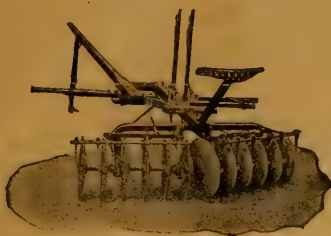
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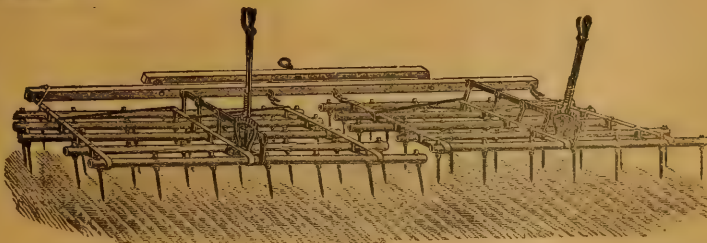
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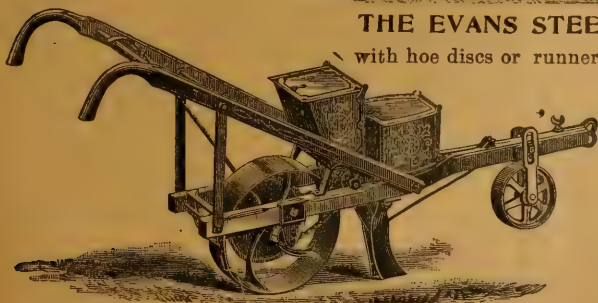
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Southern Planter

A MONTHLY JOURNAL

DEVOTED TO

**Practical and Progressive Agriculture, Horticulture,
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J. F. JACKSON, Editor and General Manager.

MAY, 1904.

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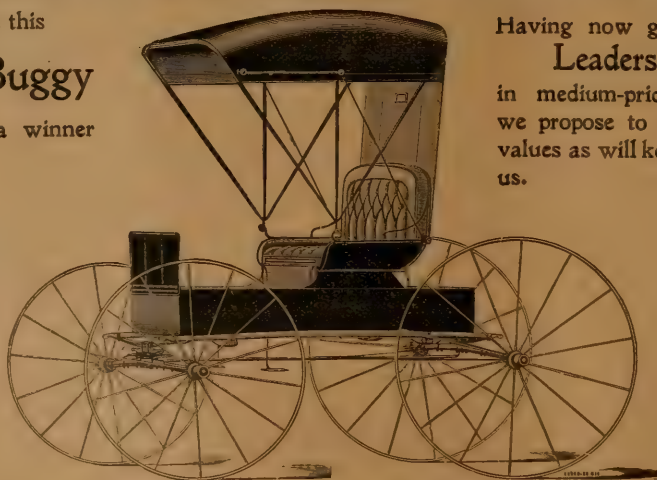
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65th Year.

Richmond, May, 1904.

No. 5.

Farm Management.

WORK FOR THE MONTH.

The cold, ungenial weather which has characterized the past six months all over the South, and indeed to a great extent all the country, still continues. Up to this writings (20th April) we have had really no Southern spring weather. The wind persistently stays in the northwest, north or northeast, and feels all the time as though it came over the snow and ice, and the sun with all its acquired power can do little more than moderate this iciness, it cannot overcome it so as to give us genial growing weather. Added to this condition we have a continuance of the abnormal dryness which has now lasted for five months. As a result of these conditions, fall sown crops and grass have made but little growth, and but slow progress has been made in fitting and preparing the land and in planting spring crops. The Government report on the condition of the winter wheat crop is distinctly discouraging, showing that the South has not been alone in having a hard winter. The average condition of the crop for the whole country is only 76.5 per cent., as against 97.3 per cent. at the same time last year, and 84.1 per cent., the average for ten years. In Virginia the condition is 69, as against 103 last year. In North Carolina 84, as against 100 last year. In Maryland 71, as against 99 last year, and in South Carolina 82, as against 93 last year. The reports we receive as to the winter oat crop in the South are also very unsatisfactory. Much of the crop has been killed outright, whilst a large proportion of the remainder is seriously damaged. Spring oats are making but slow growth, and we are of opin-

ion from reports made to us that the crop will be a small one in the South, and that the farmers will have to look to summer forage crops for feed for the stock.

In our last issue we wrote fully on the subject of the preparation of the land for the corn crop, and as to the food requirements of the crop, and to that issue we refer our readers. We would again emphasize the point there made that the yield of the crop will depend much more on the perfect preparation of the land than upon any fertilizer that may be used. What the land of the South most needs is humus (vegetable matter) and deep and perfect preparation before the planting of the crop. This makes it retentive of moisture, prevents baking and crusting of the soil, and if these conditions are maintained, the corn crop, with its immense root system, will forage for food and secure it although no commercial fertilizer be applied. Wherever peas or any other of the leguminous crops have been grown last year the effect on the corn crop will be very apparent. We have known a single crop of cow peas grown and plowed under to increase the yield of the corn crop following from 10 to 20 bushels to the acre. In one case within our experience where a crop of cow peas was grown and plowed down in the fall and the land dressed with 25 bushels of lime to the acre, the yield of the corn crop the following year was 36 bushels to the acre, as against a previous yield of 10 bushels to the acre. Deep and perfect cultivation of the soil and the application of lime will make avail-

able the great natural stores of phosphoric acid and potash in the soil even of old cultivated land, and the only other requisite then needed for a good crop is retention of moisture. Do not be in too great haste in planting the crop, but devote the time until the soil is warmed by the sun to making the seed bed more perfect. Corn will not germinate and grow off well in cold land, and the corn crop that does not grow off right away from the day it is planted is not going to make a great yield. Better wait a week or ten days and have the land warm and in fine condition before planting. Do not plant a greater area than you can find time and team to cultivate well and frequently throughout the growing season. We have seen many a promising crop lost from want of frequent cultivation.

The cultivation of the corn crop is a subject that does not usually receive half of the attention it deserves. Many farmers altogether miss the great object of cultivation. They regard the killing of weeds as the prime object. This is not so. Whilst the killing of weeds is important, it is much more important that the soil should be so frequently stirred as to prevent their growth, and to so thoroughly aerate it as to render available the plant food in the soil and permit of the fine rootlets of the plants permeating every foot of the land and gathering from it the food needed for the growth of the crop. It is much easier to prevent the growth of weeds than to destroy them after they are grown. When the soil is so frequently stirred as to prevent a growth of weeds the germinating weed seeds are killed before there is time for the weeds to rob the corn plants of food and moisture. Every day weeds are permitted to grow they are robbing the soil of food and moisture and decreasing the supply for the corn crop. Cultivation, when properly done, conserves moisture and prevents weed growth. The cultivation which meets these requirements is not deep plowing with a turn plow—plowing off the soil from the plant and then turning it back again at the next working. A turning plow has no place in a corn field after the crop has been planted. All its work should have been done before the planting of the crop. Its use afterwards simply means the tearing of the fine rootlets of the plants and injury to the crop. The implement needed is a harrow or weeder for the first two or three workings, and a cultivator for the later workings, and these should not be set to disturb more than the top three inches of soil. Land cultivated in this way, kept level, and covered with a fine mulch of soil, will retain moisture

to the surface and thus conduce to the rapid growth of the crop. Let the first cultivation be given with the harrow or weeder, running the same over all the land and not merely between the rows, before the plants break through the soil or immediately they have begun to appear, and especially is this important when a rain has fallen after the seed has been planted, but before it has had time to break through the surface. This system of cultivation with the weeder or harrow can, with advantage, be continued until the plants are six or eight inches high. Deep cultivation with the plow as compared with shallow, level cultivation with a cultivator has been tested at many of the Experiment Stations, and the results have been invariably in favor of shallow, level cultivation. At the Illinois Station in 1893 the yield per acre of corn on land cultivated shallow and with a careful avoidance of root injury or disturbance was 100 bushels to the acre, as against 78 bushels per acre on land where the roots were disturbed and pruned by deep cultivation. Let the cultivation of the crop be continued as long as it is practicable to go through the rows without doing injury to the stalks, and previous to the last cultivation sow either cow peas, crimson clover or sapling clover broadcast and work in with the cultivator. Do not follow the old practice of throwing a hill to the corn at this last working. It only tends to reduce the moisture content of the soil by leaving a larger surface exposed to the sun's rays. It is of importance to conserve this moisture and not to waste it. The idea that a furrow thrown to the row will hold up the corn is a fallacious one. It might have been true, when under the old system of cultivation with a plow, the roots had been badly cut off in the working of the crop, but under a system of shallow, level cultivation the roots of the crop will be so widely extended as to run across from row to row, and the stalks are sufficiently braced in all directions as to need no support from soil thrown to them.

The cultivation of the cotton crop should be on the same general lines laid down for the corn crop, except that we would not use a harrow or weeder for the first two cultivations. Cotton plants are too tender to be treated in this way. The cultivation should be done by a weeder or cultivator running only between the rows. The cultivation in the rows is done by the hoe when chopping the crop to a stand. The importance of shallow, frequent cultivation is as great for the cotton crop as for the corn crop. At the last working sow crimson clover in the cotton. This will

make a cover for the land in the winter and thus improve it by supplying humus making matter, besides making some feed for stock.

The preparation of the land for the planting of the tobacco crop should have attention, as the plants should be set out in the latter part of the month or the first week in June. The late cold spring has caused much delay in raising plants, and we hear that they are still very small, and will not be ready to set out as early as usual. Let the land be well and finely broken, and especially well fitted so that the small plants may have a chance to immediately take hold and commence growth. In our last issue we gave advice as to the fertilizer to use on this crop, and to that issue we refer our readers. We would like to see Virginia tobacco growers make an effort to produce a particularly good crop this year, as we believe that it will pay them to do so. The high price of cotton will cause many tobacco growers in the Carolinas to abandon the crop and plant cotton in its place. This will make a better market for our tobacco, and if the quality made is only good we are of opinion that it will sell for a paying price. To make a heavy crop of good tobacco calls for plenty of rich fertilizer in the soil and a well prepared soil. In the Northern tobacco sections it is quite a common practice to apply from 1,000 to 1,500 pounds of a high grade tobacco fertilizer to the acre, and from such fertilizing heavy crops of fine tobacco are made. We would like to see experiments made on this line here. We believe that it would pay upon the dark heavy shipping types of tobacco. Let the fertilizer used be rich in potash and nitrogen, so as to give quality and size to the leaf, but keep down the phosphoric acid so as to avoid coarseness.

The peanut crop is becoming one of increasing importance in the South, and especially in this State. The average crop grown here is over 3,000,000 bushels every year, and this is also the case in North Carolina. The consumption of nuts is constantly increasing, and last year's crop failed to meet the market's requirement, and prices have advanced all through the winter and spring, and the market is reported bare of stock. With more attention given to the preparation of the land and the adoption of a system of rotation by which the crop shall only come on the land every three or four years instead of every year or every other year, as has been the case in the past, we believe that the growing of peanuts can be made a profitable business in our light Tide-

water section soils. The average crop made is only about 30 bushels to the acre. This should be doubled, and can be easily done with a proper system of rotation by which the soil shall be kept filled with humus, and the use of lime to render the plant food in the soil available and to keep the soil free from acidity, and cause the nuts to fill well. In our March issue, in reply to an enquirer, we gave advice as to a proper fertilizer to use for the crop. Unfortunately by a printer's error a cypher was left off one of the constituents, and this was not detected until too late to correct the same in the April issue. The fertilizer advised should read 300 pounds cotton seed meal, 80 pounds acid phosphate, and 240 pounds of kainit per acre. If cow peas or crimson clover have been grown on the land, the quantity of cotton seed meal may be reduced to 150 pounds. The nuts should be planted this month.

When the staple crops—corn, cotton and tobacco—have been planted and started on their growth time should be taken to plant forage crops to supplement the pastures and to make feed for stock during the winter. The importance of these crops has been emphasized by the long winter through which we have just passed. On hundreds of farms throughout the South where no special provision had been made by means of forage crops for the feeding of the stock, but the old custom of relying on the fodder from the corn crops and such hay as had been saved had been followed, the stock have had to go short of feed and have come through the winter in worse condition and are worth less money now than when they went into winter quarters. This is poor farming and bad economy. To keep stock without its constantly improving in weight and value is a waste of food and time and a loss of interest on the money invested in the animals. To merely keep them to make manure is not sufficient, especially when that manure is made only from shortened rations of no high nutritive value. It cannot under such circumstances be of anything like the value for the improvement of the land which it ought to be. Where stock are well fed on rations rich in protein and carbohydrates the manure made will largely pay for the cost of keeping the animals, and will with the increase in weight of the animals make stock keeping a profitable business, and result in a farm highly improved in productive capacity by the application of the manure to the land. Such manure will return to the soil not merely the vegetable refuse which makes humus, but will also return to the soil something like 75 per cent. of the

nitrogen and mineral fertility contained in the food. Now that the South is becoming so much more largely a stock keeping country the necessity for the making of forage crops is a subject demanding attention. There is no section of the whole country where forage crops of so great variety and of such great luxuriance of growth can be made as in the South. Whilst some other sections can make as fine hay crops, nowhere else can such enormous yields of forage and so many crops be made in the time as in the South. In making choice of the crops to be grown, attention should be given to the feeding value of the same. Some are rich in protein, the muscle and flesh forming elements, whilst others are rich in the carbo-hydrates, the makers of fat and heat. There should be selection made from both types, so that the animals may be fed a balanced ration, and thus be enabled to make growth and fat. Feeding only one kind cannot result in that success which ought to be secured. Amongst the most valuable protein crops are cow peas and soy beans, amongst the carbo-hydrate crops are corn fodder, sorghum, Kaffir corn, teocinte and the millets. In addition to these strictly forage crops, crimson clover, red and sapling clover and alfalfa, vetches and rape can be grown to supplement the pastures or provide winter and spring grazing. Where all these crops receive that attention which they ought to have, and are some or all of them produced on the farm, stock can be kept in growing and feeding condition without much, if any, recourse to the corn crib. *A ton of cow pea hay is worth as much as a stock food as a ton of wheat bran*, and more if a fair quantity of peas are saved with the hay. The clovers, alfalfa, vetches and rape being strictly crops for fall seeding, we do not propose now to say more about them, but invite attention to the others we have named. Let land be well prepared for cow peas, soy beans, sorghum, Kaffir corn, and corn for fodder and the silo, and also for some of the millets for cutting for green feed to supplement the pastures and for hay. All the leguminous crops like cow peas and soy beans are great consumers of the mineral fertilizers, phosphates and potash, and should, unless the land is fertile, have the help of 200 or 300 pounds to the acre of acid phosphate at least, and on light, sandy land of 50 pounds of muriate of potash per acre. They will well pay for this outlay, as it enables them to make a quick, luxuriant growth, and thus become so much better able to gather nitrogen from the atmosphere for the enrichment of the crop and the soil. Whilst all these crops may be sown broadcast with a considerable degree of success,

yet experiments have conclusively proved that they make a better return when planted in rows and cultivated once or twice. Cow peas which are usually very largely grown sown broadcast are this year high in price, and we would therefore suggest that this practice be not followed, but that they be drilled in rows 2 feet or 2 feet 6 inches apart. Planted in this way a peck or a peck and a half will plant an acre and a better crop be made than with a bushel or a bushel and a half sown broadcast. We are strongly in favor of mixing cow peas and sorghum together, using say a peck of cow peas and half a peck of sorghum seed per acre. This makes an excellent, well-balanced feed for stock, and the hay is easier to cure than that of cow peas alone. Talking a few days ago with the owner of a large plantation, who keeps a heavy head of stock, on this subject of forage crops, he remarked that after making experiments with nearly every variety of them he had concluded that cow peas and sorghum sown together made the best crop and the finest feed of any, and that he grew a large acreage of this every year, upon which his stock always did well in winter. Sorghum, of which the Early Amber and Early Orange are the best varieties, may be sown either in drill or broadcast. If intended for hay, it should be sown thickly broadcast, so that the stalks may be small, say at the rate of one bushel to the acre. We prefer, however, to grow it in rows 2 feet 6 inches apart, and let it stand two or three inches apart in the rows. A peck of seed will sow an acre in this way. It should then be harvested like corn, and be set up in shocks to cure. Kaffir corn is a non-saccharine sorghum, and whilst not so valuable as a feed as the saccharine sorghums, ought not to be overlooked, as it stands a drouth better than any other variety. Sow like sorghum. Soy beans may be sown either broadcast or in rows, but we advise that they be planted in rows 2 feet 6 inches apart, and be cultivated like corn. A peck of seed will sow an acre in this way. They will in good land meet in the rows and make a fine crop for winter feeding cut when the earliest pods are just ripening, or they may be allowed to ripen the seed and be threshed for the peas, and the stock will eat up the stalks and hulls clean. South of the James river teocinte may be sown for forage. It will not mature seed in this State, but makes an immense growth of forage, which will spring up again from the stocks after being cut off once or twice. It is valuable to use as a green forage crop, and makes fair dry feed, though not so nutritious as corn or sorghum. Cat tail and German millet may be sown to supplement

the hay crop or for green feed. Sow broadcast at the rate of a bushel per acre on finely prepared land.

Corn for the silo should be planted not later than the end of June. Plant in rows 3 feet apart, leaving the stalks 6 inches apart in the rows. Planted in this way the crop will make a fair proportion of ears, and the stalks will mature well and make good, sweet silage. On good land from 10 to 15 tons to the acre can be made in this way, and as a feed for stock of all kinds nothing can excel it in winter, as it retains its succulency and palatability. It is a great milk making food. As a feed, it may be greatly improved by growing cow peas in the rows along with the corn. The peas, either the Clay or Whippoorwill, are best, as they keep closer to the corn stalks and are less troublesome to harvest than the Black or other rampant vine makers, should be planted alongside the corn rows at the second cultivation, and will then sufficiently mature at the same time as the corn. This combination makes a better balanced silage than corn alone, and a greater weight of feed can be put into the silo in the same space.

When planting the corn, don't forget to sow some pumpkin seeds along with it. They will grow together without injury to each other, and the pumpkins are good feed for cattle and hogs in the winter. Sow a couple of pounds of the Virginia Mammoth to the acre. They can be mixed with the corn in the drill.

SOME THOUGHTS ON THE APRIL PLANTER.

DRAINING WITH POLES.

Editor Southern Planter:

What Mr. Thomas says in regard to pine pole drains is perfectly correct. Over sixteen years ago I drained a cove in a river bottom in Albemarle, which was surrounded by high hills and covered with bunches of willow. Water formerly stood over it all winter, and ice was cut from it. I cut a ditch around next the hills to cut off the springs, and from this ditches parallel to each other and straight to the branch. All the ditches were laid with skinned pine poles covered with pine straw and filled up. Poles were laid on each side the ditch bottom and another made the cover between them, being larger than the others. The next season I had fine clover on the ground, having, of course, cleared off the willows. I saw that piece of land two years ago, and the pole drains were still working all right.

LIME.

Mr. Hull is evidently an enthusiast in lime. Doubtless in the red clay lands of the Piedmont section lime has a great value even as a mechanical agent in the mellowing of the soil, and a fine action also in sweetening the soil for clover. Lime is a great aid in the improvement of the soil when properly used, but the man who thinks that, because he gets good results at once from an application of lime, lime is a manure, and that all that is necessary to make his land rich and richer is to keep putting lime on it, will find after a while that lime has helped him to reduce the plant food in the soil, and will have to go to work to replace it. Lime in connection with clover can be made the most efficient agent in the restoration of the old red hills. I formerly used a great deal of lime in Virginia (Piedmont), but I practiced a different method from that Mr. Hull uses, and I think a better one. I bought fresh, unslaked lime in carload lots. Hauled it and piled it in a heap, and then slaked it at once with water to a fine powder. This was hauled and spread from the wagon direct, and there were no overlimed spots as there will be where it is left weeks in piles, and it is far easier to spread from the wagon after measuring the wagon box and laying off the land in acres. Lime is a great aid in an improving rotation, but used with the notion that it will make poor land rich of itself will lead to exhaustion. In Dr. Fisher's experience it is shown that lime helped, but he got a great deal of humus making material on the land before making the big crop of corn. Keep up the humus and lime will help very greatly in its nitrification.

SACCHALINE.

Mr. Rice is mistaken in saying that this plant is no relation to buckwheat. It belongs to the same botanical family as buckwheat, and is no sort of a relative to dock, though somewhat similar in its growth to dock. But it is not worth any more than dock, and we hope that we are not going to have a revival of it.

NITROGEN IN LEGUMES.

N says that a ton of green pea vines contain five pounds of nitrogen. The best analysis I have at hand makes a ton of green pea vines contain between 29 and 30 pounds of nitrogen and a ton of green alfalfa 45 pounds. I am glad to see that he is figuring on the feeding value of these things. I have no objection to alfalfa, and every one should have a piece. But the peas will come into the regular farm rotation while the alfalfa will not, and therefore both are needed for feeding and soil improvement. But

the one who supposes that a plot of alfalfa can be kept producing large crops without fertilization will soon find that he is mistaken. Lime every five or six years and phosphate and potash every year will pay well on the alfalfa.

ROOT GRAFTED TREES.

The talk that has been made by many nurserymen in regard to the greater value of whole roots in grafting trees is largely an advertising dodge, for no one ever uses really the whole root. The seedlings come with roots, straight tap roots over a foot long. Now, as the graft must be set just below the surface of the soil, what are you going to do with that long root? It simply must be shortened for planting. It may be that the graft on the crown of the root is best, but it is entirely impracticable to use the whole root, and in my experience the piece cut off will make just as good a graft as any, and I have so used it.

JAPAN CLOVER AND BROOMSEDGE.

You say that it will not destroy broomsedge. It certainly did for me, and it is doing it in large sections of Western North Carolina and here.

ARTICHOKES FOR HOGS.

Doubtless the hogs will like the artichokes, but I do not think the man who plants them will like them long. I tried once to get rid of them in a piece of strong limestone clay loam many years ago, and I believe they are there yet. There are so many things we can plant for the hogs that are not vile weeds that I never advise the artichokes. Hogs may get them out of sandy soil, but never from a clay one.

VELVET BEANS.

These are being found valuable in sandy soil in the far southeast corner of this State, but are worthless from the middle section north, especially on a clay soil. About the town of Magnolia on the Atlantic Coast Line R. R. they are using them in preference to peas.

ASHES AND GUANO.

I would like to add to what you say to Mr. Spencer, as I am writing to numerous correspondents who ask the same question, that mixing ashes with fertilizers will injure the fertilizer by driving off the ammonia and reverting the phosphoric acid through the action of the lime in the ashes. There is no one question that comes up more frequently than this from people who happen to have some ashes, and imagine that they can be used in a mixed fertilizer with commercial fertilizers or home made manures. and no matter how often we tell them of the risk the next day some one else comes with the same query, though reading the same paper where the previous

reply was given. The fact is that few farmers seem to read their papers carefully or listen and take in what is told by Institute lectures.

ASPARAGUS FROM SEED.

I am glad to find that Mr. Allen has found out the advantage of sowing the seed of asparagus where it is to stand. I have been advocating this plan for thirty years, and you will find my method fully detailed in the recent bulletin of the Department of Agriculture of North Carolina on garden vegetables, which I prepared. But the making of trenches three feet deep is needless, for manure packed down that deep will never be used by the plants. A deeply prepared soil well filled with manure is all that is needed. I prefer to cut my asparagus at the surface and get all tender. The new Columbian asparagus, which keeps white till several inches high, will please those who want it white. I have sown asparagus seed and cut good asparagus from it the following spring. The thinnings can be transplanted like cabbage plants.

W. F. MASSEY, *Editor of Practical Farmer.*

Whilst our own experience has not convinced us that Japan clover will destroy broomsedge, a friend of ours confirms what Prof. Massey says. He has killed out the broomsedge on part of his farm with Japan clover. He says also that by heavily manuring the land with barnyard manure he has killed it out.—ED

SORGHUM AS A FORAGE CROP.

Editor Southern Planter:

As May is the time to plant sorghum, I will give the readers of the *PLANTER* the benefit of what I have seen and heard about this crop in the States west and south of Virginia. While travelling in Kentucky several years ago I found field after field of it shocked up as other corn, and upon inquiry I was told it was to feed horses, cattle, hogs, etc. Whilst in North Carolina this winter I spent several days with a stock dealer, and I noticed that he fed his horses and mules (which he handled by the car load) on sorghum cane which was given them just as it came from the shocks in the field. It was five or six feet tall, and the stalks were the size of your fingers, and perhaps a little larger. It was bright, sweet, and in perfect keeping order, and relished heartily by all stock, they frequently leaving grain untouched to eat it. I went to the twelve acre lot where it was grown and found the shocks just as they had been set up after the crop had been cut by the corn harvester. These were set up the day the crop was cut.

I found it had been sown in rows about four feet apart and cultivated as we do corn. It stood thick in the drill, which is necessary to keep the stalks from growing too large. I talked with half a dozen or more farmers in the neighborhood, and they all agreed that it was the greatest forage crop that could be raised, and that one acre of it was worth more than four acres in corn on the same character of land. It should not be harvested until it heads out, and the seed is pretty well matured. It has then reached the point of its highest value. It will keep all winter in perfect condition in shocks of three to four feet in diameter, but will mould and sour if packed away in the house in a horizontal position. As Virginia is rapidly becoming a stock raising State, and as forage for winter is a vital question, I believe that stock men will find in sorghum cane just the thing for their horses, cattle, hogs and sheep, for it not only furnishes a large yield per acre, but is very nutritious.

I found in Georgia this winter that sorghum hay was raised by sowing two bushels and a half of seed to the acre, which made it very thick on the land and the stalks were very little larger than wheat straws. It was cut with the mower after heading and allowed to lie on the ground for ten days. Rain will not hurt it. It is then raked up and stored away with perfect safety in the barn or in stacks. One other advantage it has is the second crop which will come immediately from the stubble, and I was told that this is more valuable as feed than the first.

I shall plant about ten acres of sorghum in rows to be cultivated, and will sow broadcast about two acres this year as an experiment. C. G. SNEAD.

Fluvanna Co., Va.

COW PEAS AS A HAY CROP.

We take the following from a bulletin just issued by the Arkansas Experiment Station:

The intelligent production of hay is a profitable industry in many localities of the State. According to the U. S. Census report the average hay yield of the United States for the past ten years has been 1.32 tons per acre, and for Arkansas the same report gives a ten years' average of 1.35 tons per acre, of .03 above the average for the whole country. Exclusive of peas and hulls cow pea hay grown on the station grounds the past five years has ranged from .37 of a ton to 4 tons per acre, the average of all plots of all varieties being 1.58 tons per acre. The above refers to cow peas grown principally for experimental purposes. On larger areas and where the hay was

grown primarily for feed and from varieties well suited to the production of hay, the average yield has been well above two tons per acre, not including peas or hulls, and when the peas were harvested with the vines the average has been approximately three tons per acre.

In 1902 and again in 1903, more than 300 plots of cow peas were grown and harvested under field conditions. In 1902 the yield of hay from 141 plots was recorded and from 153 plots in 1903. Of these 294 plots only eleven gave less than 1,000 pounds of hay per acre (exclusive of peas), 87 plots gave between one and two thousand pounds per acre, 108 gave between two and four thousand pounds per acre, and 88 plots more than four thousand pounds. The average yields of cow pea hay for the past five years as computed from all plots of all varieties of which a record was made, are as follows:

	lbs. hay per acre.
1899	3,183
1900	2,773
1901	3,369
1902	3,609
1903	2,913

Five years' average.....3,169.4

With the exception of a very few cases these averages do not include the weight of either peas or hulls. When the pods were harvested with the hay the yield of peas was light. Usually the harvesting of the hay was delayed until the peas could be gathered. In many cases this necessarily reduced the yield of hay, many leaves having fallen from a number of varieties before all the peas were sufficiently ripe to be gathered.

In 1902, sixteen plots produced more than 6,000 pounds of hay per acre, eight of which ripened no peas, or so small a quantity that they were not worth the gathering. The highest acreage yield recorded in 1902 was 8,750 pounds made by the variety Clay. This 8,750 pounds of hay bore only 2.9 bushels of shelled peas. The lowest yield of hay was 750 pounds per acre produced by one plot each of New Era and Extra Early Black Eye. These two plots yielded respectively 1,337.5 and 1,025 pounds of shelled peas per acre. The weight of the peas and hulls produced by these two varieties in this instance was double the weight of the cured vines that bore the peas and hulls. One plot of Wonderful (or Unknown) yielded 8,350 pounds of hay per acre and no blossoms had appeared upon the vines when harvested in October. Two other plots of this variety ripened no peas. Two plots of Clay produced 8,250 and 7,540 pounds of hay per acre and no peas worth gathering.

These great varietal differences have an import-

ant bearing upon the selection of varieties to be grown for whatever purpose, and particularly when the prime object of their culture is the production of hay. Lack of recognition of these differences in the habits of varieties is a fruitful source of failure, or of at least unsatisfactory results and of disappointment. On the other hand, a due consideration of these varietal variations will enable the grower to select varieties well suited to each of the various purposes for which the cow pea is grown.

Since the summer of 1898 more than 550 plots of cow pea vines have been cut for hay, including about 50 varieties. A number of these varieties, and particularly those of dissimilar characters, were grown in multiple plots, cut at various degrees of maturity and under a variety of weather conditions. The results of attempts to cure these various lots of hay range from perfect success to complete failure. A review of the results of these tests extending through five years seems to warrant these conclusions:

(a) Cow peas of any variety harvested while young or in vigorous growth are difficult to cure into hay no matter how favorable the weather conditions.

(b) Mature vines are cured with little difficulty in favorable weather, and usually cure in fair to excellent condition after an exposure of two to four days of rain and cloudy weather.

(c) Varieties producing the heaviest yield of peas are most easily cured into hay, while those producing a few peas, or none at all, were the most difficult to cure, since they habitually continue in vigorous growth until checked by frost.

(d) Late, shallow cultivation prolongs the period of growth and makes the vines more difficult to cure. Cultivation should cease when the first pods appear if the crop is intended for hay.

(e) Vines bearing a fair or full crop of peas that ripen well together are easily cured when one-fourth or more of the peas are thoroughly ripe and no second growth of vine has been induced by excessive moisture.

(f) Vines bearing a fair or full crop of peas ripening through a prolonged period through which the plants continue in vigorous growth are usually difficult to cure in other than the most favorable weather.

The numerous varieties of cow peas differ so widely in various respects that their peculiarities must be considered when the crop is grown for hay and the time of mowing, treatment while in the swathe, in wind-rows and in cocks adjusted not only to the condition of the weather, but also the peculiarities of the variety, and to variations due to climate and soil.

When corresponding with advertisers, kindly mention the SOUTHERN PLANTER.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Duroc Hogs.

Please give your opinion on the Duroc hogs. Are they as good or better for this section than Poland-Chinas or Berkshires? How would they cross on either of these breeds? W. S. D.

Lancaster Co., Va.

The Duroc Jersey Hogs are an improved breed of the old Jersey Red Hogs, and are a good breed of bacon hogs. They are very largely bred in some of the Western States, and highly spoken of as profitable hogs. We doubt, however, whether they are equal to the Berkshires for the South. We would not advise crossing them on either of the breeds named. In our last issue we gave our opinion on this question of crossing pure bred hogs.—We are decidedly against it.—Ed.

Pip in Chickens.

What can you give young chicks when first hatched to prevent them from having pip on the tongue, as I have lost several from it.

Caroline Co., Va.

A SUBSCRIBER.

We often hear of this supposed disease, but do not believe in it. We have kept chickens all our lives and never were troubled with it. When a boy we remember to have seen old farmers' wives scraping off the tips of the tongues of chickens to cure pip, so they said, but we never did so, and lost no more chickens than they did. We can find no mention of any such disease in our books. The chickens die from some other cause than that named. Feed them on dry grits and bread soaked in milk and squeezed dry, and let them have fine, sharp grit to pick and a little bone meal in their food once or twice a week. Soft food is the cause of more dead chickens than any disease.—Ed.

Improving Land.

1. Most of my land is a sandy loam, and my neighbor has black loamy land that is always light and never bakes, but in winter it will put up icicles that are six inches long, and it raises anything planted out of the ground. I have four fields that join him. They have been rented, or rather sub-rented, for a number of years, and the ditches are stopped and the soil is dark and sticky. The soil can be worked like putty. I have opened the ditches and the land is beginning to dry and get hard. I plowed in weeds

that were 7 or 8 feet high and sowed crimson clover, but failed to get a stand on account of late seeding.

2. I have a quantity of pine sawdust on hand, and thought of putting it on the land to lighten it. Neighbors say it will ruin the land. Some do not know why, and some say there is too much acid. I have tested sawdust for acid and can't find any. Please advise me as to this land.

Princess Anne Co., Va.

K. F. GRANT.

1. The land requires thorough drainage, and then to be filled with vegetable matter by the growing of humus making crops, the stubble of which should be plowed down. It is very probable that the land will be too sour to grow crops well until it has been limed. Plow it and apply 25 bushels of lime to the acre, and work in. This will not only sweeten the land, but will change the physical and mechanical condition of the soil. Recent experiments made in Illinois have proven that an application of potash to soils of this character is very beneficial. We would apply 50 pounds of muriate of potash to the acre before seeding a crop.

2. Sawdust is of no benefit whatever to land. It contains no plant food. Its application to wet land is also to be deprecated for the reason that it absorbs and holds moisture which the land does not need. Burn the sawdust and apply the ashes. These will help by supplying some potash.—Ed.

Improving Land.

I have some stiff places on my farm. The land is high land. Would sowing grain crops like peas and turning down do my land good?

J. G. L.

Accomac Co., Va.

Plow the land deep, work fine and sow cow peas or cow peas and sorghum, applying 200 pounds of acid phosphate to the acre. Mow the peas for hay, leaving a tall stubble. Plow this down and apply 25 bushels of lime to the acre, and then sow crimson clover and a mixture of wheat, oats and rye. This will make a winter cover, and should be plowed down in the spring, and the land will then be lightened. If necessary, repeat again next year.—Ed.

Alfalfa.

Please advise me what to do with an acre of alfalfa that I put in September 15th last year. I have a good stand, but the plants seem to be weak, occasionally a plant looks thrifty, but the majority of it does not. Land was inoculated and 500 pounds of a 10-2 fertilizer harrowed in before seeding.

Gloucester Co., Va.

C. M. S.

Apply 75 to 100 pounds of nitrate of soda broad-

cast per acre. It is probable that the bacteria has not yet sufficiently inoculated the soil, Warmer weather will cause this to spread and the nitrate of soda will help the crop until this occurs.—Ed.

Fertilizing Land for Bright Tobacco.

Can't you devote a little more space to the preparation and fertilizing of land for bright tobacco and its cultivation? It is the most important industry in this part of the State.

A. H. ZOLLINGER.

Charlotte Co., Va.

In our last issue we devoted considerable space to the question of the proper fertilizer to use for tobacco, and we refer the enquirer to that issue. The percentage of nitrogen and phosphoric acid in the fertilizer ought not to be so large for bright tobacco as for the dark, heavy shipping types, but otherwise the requirements of the crops are the same.—Ed.

Scours in Calves.

Will you please publish a cure for scours in calves and young pigs?

A SUBSCRIBER.

Feed a tablespoonful of blood meal in each feed of milk and give a like quantity to the pigs in their food. Blood meal can be had from the Armour Co. and their agents.—Ed.

Diseased Apple Tree.

I enclose apple tree twig for inspection and advice. It has a scale on the bark, as you may see, and is infected from the ground to the top of the tree.

Accomac Co., Va.

A SUBSCRIBER.

The tree is infested with San Jose scale. Dig it up and burn it, and do the same with others as badly infested. Spray the rest of the orchard with the lime, sulphur and salt wash advised in recent issues of the PLANTER.—Ed.

Grass for Name.

Will you please tell me what you think of this grass which I send by mail? Our lawn is lovely, but I find this grass coming in spots, and I don't know what to think of it. In winter it looks dead. I have asked many, and they do not know if it will do well for our stock.

HOGGARD.

The grass sent being unknown to us, we referred the same to the Agrostologist of the Department of Agriculture. The following is his reply:

I have in hand yours of the 6th instant, referred to this office for attention. The grass you have sent is a grass found not uncommonly along the coast region of Florida, and there known as St. Augustine grass,

Stenotaphrum dimidiatum. In that latitude this has a considerable value for lawns on account of its strong creeping habit and rapid growth, which enables it to successfully withstand considerable adverse conditions, such as weeds and some drought. I do not know whether this would be sufficiently hardy to stand our extremes of cold as far north as Princess Anne county or not.

CARLTON R. BALL.

Ginseng.

Please advise in your next issue what character of soil and climate is best adapted to growth of "ginseng," and where I will be able to purchase the seed or the roots, as I would like to try its cultivation in Texas, and oblige an old subscriber.

Texas.

A. B. HITT.

On page 168 of the March issue you will find information as to growing ginseng. The Commercial Ginseng Co., of Crozet, Va., will very likely be able to supply seed or roots.—Ed.

Alfalfa Bacteria—Bermuda Grass—Soy Beans— StockPea—Berkshires—German Clover— Hog House.

1. What is the cost of alfalfa bacteria procured from the Department of Agriculture?

2. Will Bermuda grass grow in Norfolk county, and what soil is best?

3. Is there any difference between the soy and the soja bean?

4. Also, is there any between them and the stock pea?

5. Is there any difference in the size of the American and English Berkshire hogs, and which would you advise me to buy for breeding purposes.

6. Will German clover grow as far South as this? Is it good for hogs?

7. Please give plan for cheap hog house.

Norfolk Co., Va.

R. N.

The Department of Agriculture supplies the bacteria free, we believe.

2. Yes; a light loam soil.

3. No. Soy bean is the correct name.

4. Yes. The Stock pea is more correctly called cow pea. The two plants (soy bean and cow pea) are botanically two distinct families of plants.

5. No. The breed is an English breed, and all Berkshires are either English bred or descended from imported hogs.

6. Yes; German clover (crimson clover more commonly called) grows well all over the South.

7. In the PLANTER for November, 1903, will be found a detailed description of a good hog house,

from which any good carpenter can erect the building.—Ed.

Grain Crops for Hay.

1. Please tell me the best time to cut wheat, oats and rye for hay. Is it best to cut rye in the boot so it will not be so tough.

2. How long will herds grass and German clover come up well?

3. At what stage is it best to plow under German clover?

OLD SUBSCRIBER.

Louisa Co., Va.

1. The grain crops are best cut for hay when the grain is in the milk state—that is, just after it has formed well.

2. We do not clearly understand this question. Herds grass is a perennial grass, and will continue to grow from year to year. German clover is only an annual, and must be reseeded every year. If allowed to mature its seed before being cut it will reseed itself and come up each year if the land is in fair state of fertility.

3. German clover should be plowed under when in bloom. It is then in its greatest vigor.—Ed.

Peanut Pickers.

Will some reader, or the Editor of the SOUTHERN PLANTER, please inform me about a peanut picker. What he thinks of them as to doing good and satisfactory work. Where are they made, and are there different makes. If a man has a machine, will it pay to go around among farmers and thresh them? What is the price per bushel for thrashing, and how many can be thrashed in one day? Can one horse run the machine?

A SUBSCRIBER.

Surry Co., Va.

The Cardwell Machine Co., Richmond, and Stratton & Bragg Co., Petersburg, make and sell a peanut picker. Write them for information on the subject.—Ed.

Alfalfa.

I have a piece of land, about one-half an acre I suppose that I wish to put in alfalfa. The land has never been in cultivation—in fact there are seven white oak trees standing on the piece that I shall not cut. I have put 14 loads of stable manure on the same. Now, what must I do next. How much fertilizer and what kind? Can I get bacteria from the Agricultural Department (free), and how much will it take for one-half an acre?

G. G. TAYLOR.

We assume that you have already plowed the land before applying the manure. Work the manure into the land with a cultivator, and then sow half a bushel

of cow peas. These will make a heavy shade for the land and smother out the weeds. In July cut these for hay and work the land with a disc harrow or cultivator, but do not plow again. In August sow 15 pounds of alfalfa seed inoculated with bacteria and harrow in lightly and roll. The bacteria can be had free from the Department of Agriculture. It is supplied in cakes to infect each so many pounds of seed. It is too late now to sow alfalfa this spring, nor do we advise the seeding in spring at all.—Ed.

Millet Hay.

Is there any risk in feeding millet hay to horses that was fully ripe when cut? The heads and blades brown. Please answer in your next issue.

Albemarle Co., Va.

S. C. W.

Some horses are quickly affected by millet seed, whilst others eat it apparently without injury. It has an effect on the kidneys. Millet hay to be safe for all horses ought to be cut before the seed forms. Cut when just coming into bloom.—Ed.

Ewes Breeding.

Will you inform me how to manage sheep so as to get the ewes to drop their lambs in January. I keep my ewes and bucks together all the time, but the ewes never drop lambs before March, and often in April.

SUBSCRIBER.

Isle of Wight Co., Va.

This cannot be done all at once, but has to be gradually brought about by putting the lambing time back a little each year. Take the lambs off as soon as possible this year, and then put the ewes on a thin pasture until they have lost their milk. Then put them on a better pasture and get them into good breeding condition. In August put them on to a piece of good clover or pea pasture and feed them a few peas and oats every day, and after they have been there a week turn the buck to them at nights only. The buck should have been got into good condition previous to being turned to the ewes. He should not be allowed to run with them regularly. When he is turned to the ewes rub his breast with red chalk or a piece of ochre, so that the ewes will show which he has served. The habit of early breeding is an acquired one, and depends largely upon the condition of the ewe. If ewes are expected to accept service of the buck in August or September the lambs should be taken from them not later than May. The earlier the lambs are taken off the sooner the ewes are likely to be in condition to breed again. Dorset sheep are the only ones which will take the buck at almost any season of

the year, but even this breed will not accept service immediately the lambs are weaned. We have known grade Merinos to take the buck in a month or six weeks after the lambs were weaned, but in this case they were kept in a fine clover pasture and fed some grain, peas and oats.—Ed.

Grass for Hill Side for Pasture.

Will you kindly tell me the best grass to put on hill side that is badly washed in gullies. The soil is red and poor. I wish it for permanent pasture for horses and cattle, and am anxious to get something that will hold the land together, and also prove not a nuisance to the adjoining fields, as I cultivate them in a three-year rotation. I wish to sow in fall. Would it be necessary to plow this land this summer and kill out other grasses, or to simply fallow in fall and sow grass? Would you apply fertilizer; if so, what kind and how much per acre?

MICHEAUX.

Pittsylvania Co., Va.

We should plow this land deeply at once and work it fine and sow in cow peas or cow peas and sorghum. This will level down the gullies and kill out some of the weeds. Graze the crop off with stock and then in August work the surface fine with a disc harrow or cultivator and sow with a mixture of orchard grass, Tall meadow oat grass, Virginia blue grass, Meadow Fescue and two or three pounds of Alsike clover. Top dress in the late fall with barn yard manure. If the land is not rich it should have 200 or 300 pounds of acid phosphate to the acre before sowing the peas and 300 or 400 pounds of bone meal to the acre before sowing the grass seeds.—Ed.

Minks and Weasels and Chickens.

I am very much troubled with minks and weasels. Last fall I had thirty young chickens killed.

Rockingham Co., N. C.

L. A. THORP.

Open a trench all round your chicken house close to the walls and let it be three feet deep at the least. Then buy sufficient fine meshed wire netting, say one-fourth inch mesh, 3 feet or more wide and fix this against the side of the building and ground under it, all round the building, and fill the trench with the soil taken out. This will prevent the vermin from burrowing under the building. If they then attempt to get through the walls above ground fix similar wire netting against the sides of the building.—Ed.

Brick Making.

Please give in your valuable paper the method of making bricks which our fathers used in making their bricks, and say whether any one can make them

now cheaper than the bricks can be bought from a manufacturer after paying freight and the time and trouble to haul them from railroad depot?

Sussex Co., Va.

P. L. GRAVES.

The old bricks were made simply with well tempered clay very often worked with the feet to temper it, moulded in wooden moulds, dried and then well burnt with wood in clamps built out of the bricks themselves. The bricks can be made now as easily as in the old days, but whether it will be cheaper to make them than to buy them from the large makers depends on the cost of labor. We apprehend that you would have difficulty in getting brick makers willing to work without machinery now-a-days.—Ed.

Cultivation of Corn—Applying Fertilizer—Lime—Dwarf Essex Rape—Pruning Fruit Trees.

1. In the level cultivation of corn we are told to harrow the corn till it is 5 or 6 inches high. Does that mean that we must ignore the row as if there were no corn there, or take out some of the teeth and straddle the row? After the corn is 5 or 6 inches high, what would be the best cultivator to use in rocky, stumpy land? Could we use any ordinary harrow in the first workings? Could we use the popular weeders, such as the Hallock, Keystone Adjustable, etc., in rough land?

2. Can we use a disk harrow in rocky land?

3. What sort of grass would be best for thin, gray uplands? It is sandy. Clover will not grow to do any good on such land.

4. Can I apply acid phosphate, nitrate of soda, and lime without a drill, and how?

5. Is there a low grade of lime we can use for fertilizing purposes?

6. Can I pasture dwarf Essex rape with milk cows?

7. How would you prune young fruit trees planted last fall?

8. Where can I get pure Western alfalfa seed?

Franklin Co., Va.

W. T. WADE.

1. Yes, ignore the rows until the corn is so tall as to be broken down by the harrow. In this and the last issue of THE PLANTER you will find a large number of cultivators by different makers advertised. Any of these will do good work in a corn crop if properly handled, though in rocky ground we should not advise the use of a disc cultivator. An ordinary harrow may be used for the first two or three workings or any of the weeders advertised, but none of the weeders will work in rocky ground with any satisfaction.

2. No; not with any degree of satisfaction.

3. Tall meadow oat grass and orchard grass mixed.

4. Yes. The acid phosphate and nitrate of soda can be sown broadcast with the hand and the lime be spread broadcast with a shovel.

5. You will find agricultural lime advertised in this issue by two or three firms.

6. Dwarf Essex Rape is not a proper pasture for milk cows, as it will taint the milk. Young cattle, sheep and hogs do well on it.

7. If the trees were properly cut back as advised in the February issue of THE PLANTER when set they should need no pruning this year. If not then cut back they should be so cut at once before any new growth is made.—Ed.

Diseased Tobacco—Lime for Tobacco—Sow Eating Pigs.

1. I enclose you a leaf of tobacco, desiring you to tell me what is the cause of those white specks on the leaf. There is considerable of it in my crop of last year. I have noticed some little of it before. Advise me whether you think it is a disease or something lacking in the soil. If either one, can you prescribe a remedy?

2. Would you advise the use of lime on land which I expect to plant in tobacco this spring? Would it injure the quality of the tobacco in any way, the land having been in tobacco, wheat and clover previous to this, and the clover not cut last year?

3. Can you tell me the cause and give me any remedy for a brood sow eating her young. I have a good brood sow that has had three litters, the last one in January, thirteen in number. She ate all but four of them; would have eaten them if I had not taken them away from her. I do not like to kill her if there is anything I could feed her to prevent it.

Dinwiddie Co., Va.

A SUBSCRIBER.

As we were unable to decide what was the cause of the speckled tobacco, we sent the leaf to the Bureau of Plant Industry of the Department of Agriculture and asked for a report on the subject. The pathologist of the Bureau replied as follows:

"This disease which you report as appearing in Dinwiddie county, is one which we have known for a couple of years as occurring in Prince Edward and adjoining counties. It has also been reported from one or two places in North Carolina. It does not appear to be caused either by a fungus or any other parasite. So far as my studies go, I am inclined to believe that it is the result of certain cultural conditions. As these studies have not yet been completed, I do not care to make any definite statements as to what may be wrong with the method of treatment in this particular case, but I shall be glad to do so as soon as my experiments are concluded. I shall be

glad if you can ascertain for me the following information with regard to the tobacco which you sent here:

"1. On what kind of soil was it grown?

"2. How much and what kind of fertilizer was used?

"3. How long has this particular field been planted with tobacco?

"4. To what extent have legumes been grown on the same field?"

On receipt of this reply we sent same to our enquirer and asked for reply to the questions asked. These we have received and sent to the pathologist, and are now waiting further information on the subject.

2. We do not advise the use of lime on the land intended to be planted in tobacco at this time of the year. Tobacco is a crop not calling specially for lime in its growth, and as one effect of lime is to release and make available more fertility in the soil after it has had time to act, the effect of using it might be to prolong the growing period of the tobacco too late and result in a coarse, unripe product.

3. When a sow has once begun the practice of eating her pigs it is practically impossible to break her of it, and the wisest course is to fatten and kill her. Whilst it is impossible to say positively what causes sows to adopt this practice, yet it is undoubtedly certain that it is more frequent with young sows which have been kept on a grain ration up to the time of farrowing. They are in a fevered and excited condition, and probably the smell of the blood about the young pigs incites them to eating them, a reversion to the natural appetite of the wild animal, which is partially carnivorous in its habits. Having once tasted they cannot further resist. A hog which begins to eat chickens can rarely be broken of the practice. The best preventative is to keep the sows on a vegetable and cooling diet up to the time of farrowing, and to keep the bowels open with bran slop.—Ed.

Preserving Eggs for Winter.

Can you give any successful method of preserving fresh hen eggs during the summer so they may be kept until winter? JNO. A. BROCKENBROUGH.

LANCASTER CO., VA.

Eggs may be successfully preserved in several ways. The oldest method and one which even yet comes up to nearly the best of the modern methods is to pack them away in lime water in stone jars or casks and keep in a cool place. The newest method, and which has given good results, is to pack them

away in jars in a solution of water glass (sodium silicate), 1 of silicate to 5 of water. The eggs should be gathered as soon as laid and be put away at once without longer exposure to the atmosphere than necessary.—Ed.

Fertilizing for Cow Peas.

I wish to put peas in the land now in wheat, just as soon as the wheat is cut. Is it necessary to use more fertilizer than was put on the land when the wheat was sown, and how many peas (Shinney) to the acre? M. C.

NORTHUMBERLAND CO., VA.

If the land is good and the wheat was liberally fertilized it will grow peas without further help. It is, however, always good policy to help a pea crop as the more luxuriant it is the more nitrogen it gathers and the more it enriches the land. The best fertilizer to use is acid phosphate, 200 or 300 pounds to the acre. Sow 1 bushel broadcast, or a peck if drilled.—Ed.

Angora Goats.

1. What sort of fence and how high is needed for Angora goats?

2. Do they make good and prolific mothers?

3. What food or care would they require in the mountains of Southwest Virginia during winter?

4. Are they cross or gentle and docile?

5. When should the wool be clipped?

6. I have always used small sweet potatoes for seed, but a neighbor claims large ones should be chosen. Is he correct? ROANOKE.

1. A woven wire fence 4 feet or 4 feet 6 inches high is the best fence for keeping goats confined, though a plain wire fence that height with the strands of wire 6 inches apart will suffice. A plank or rail fence will also be sufficient if it is kept perfectly erect. If it leans at all they will climb over it.

2. Yes.

3. They would need a shed for protection against the winter storms and hay for feeding during stormy weather.

4. They are docile and gentle.

5. In the spring or early summer.

6. Neither the smallest nor the largest should be used. A size a little below the medium will usually make the most and strongest sprouts.—Ed.

Cold Water Paint.

In your April issue I noticed a subscriber makes inquiry about "cold water paint." I bought some last year from the Chicago House Wrecking Co., and

applied it to a high board fence to test it. It seems to be as good to-day as then, and I would say that it was all they claim for it, making a cheap, lasting paint for fences and outbuildings. It is quickly prepared, easily applied, comes in a variety of colors. In ordering one must state whether wanted for inside or outside use.

A. H. LANG.

Ohio.

Another subscriber tells us that he has tested it and does not find it durable.—Ed.

Chickens Eating Feathers.

My chickens are given to picking and eating their feathers. Would be much pleased to know the reason and what will be the best way to stop them.

Alexandria Co., Va.

A. E. Smoot.

Idle hens confined in coops or yards are usually the ones that acquire this nasty habit, and when once acquired it is almost impossible to break it. The best way is to turn them loose and compel them to rustle and work for their living. Keep them on short rations and compel them to forage for themselves. If unable to do this, then spread plenty of short litter in the yards and feed all grain in this litter, thus compelling them to scratch for it, and thus find them something else to do than pick each other naked. We have heard of fanciers filing off the point of the beak, and thus making it difficult for the fowls to hold on to the feathers.—Ed.

Green Fallows for Tobacco.

I have four acres in German clover, two of them have been top dressed with manure, and two of them are fresh ground, which I had tobacco on last year, which I top dressed with nitrate of soda, 100 pounds to the acre. The land is chocolate loam.

1. I want to fallow this and put it in tobacco this year. What time should I fallow it?

2. What kind of fertilizer to use on the two pieces?

3. Will it be calculated to sour the land or not?

I will give my experience with German clover and pea fallows for tobacco, and if you have room you can publish it. I had a piece of land of six acres—three and a half acres was in clover. This I fallowed when the clover was in full bloom, dragged twice and rolled with a heavy roller. In two weeks I bedded up my land and planted tobacco on the 25th of May and cut it the first week in September. It was a dark green and ripened up green. I got 3,700 pounds, which averaged 10c. per pound. Balance of the land was in peas. These I fallowed after frost, planted the piece in tobacco at the same time as the other lot, and cut both together. It ripened up yellow, and only weighed 2,200 pounds, which averaged 5c.

per pound. The land was the same and I used a fertilizer 2, 9, 2, 800 pounds to the acre, on both lots. I sowed the land in wheat and the clover part is much the better. I don't know whether this was luck or whether it is that the German clover is a better fallow. I would like to have your idea on the matter.

E. C. SPAIN.

Dinwiddie Co., Va.

1. Turn the clover under when coming into bloom.

2. In our last issue, page 239, you will find our advice as to a proper fertilizer to use for the tobacco crop. The German clover will, however, in your case supply much of the nitrogen needed, and there advised to be supplied, and you can therefore safely reduce the quantity of dried blood recommended to be used.

3. No. The land is not yet warm enough to cause this.

Your experience with German clover and cow peas is interesting. Whilst it is not easy to explain the different results reached as both the crops supply nearly the same quantity of nitrogen to the soil, though the clover supplies somewhat more potash, yet we think that the most probable cause of the difference in yield in tobacco was that the German clover covered the land all winter and up to the time when the tobacco was planted, and in this way conserved fertility and added to it, whilst the cow pea crop was plowed down in the fall and the land left bare and wasting fertility during the winter.—Ed.

Rotation of Crops.

I have thirty acres that I would like to divide into three lots of ten acres each and crop them so I could get the most feed and keep up the fertility of the land. How would the following three years' rotation succeed on our land, that produces about ten barrels of corn per acre?

First Year—Manure and sow corn for silo. Sow crimson clover at last working of corn.

Second Year—Plow down the crimson clover and sow cow peas with 300 pounds of acid fertilizer per acre for hay. After hay is cut disk and sow hairy vetch and rye.

Third Year—Cut vetch and rye for hay, cover with manure, to be followed by corn the next year.

Would a little red clover sowed with the rye and vetch be any advantage? E. THOS. MASSEY.

Kent Co., Md.

The rotation suggested would appear to be a proper one for securing the purpose aimed at, and would, we think also maintain the fertility of the land. It would no doubt be desirable to secure a cover for the land after the vetch and rye is cut for hay, say in

June, until the following spring, and this would be attained if red clover could be successfully sown with the vetches and rye. We have known this practice to succeed, but it is not always certain. If the vetches and rye make a heavy crop it is apt to smother out the clover, but the experiment is worth trying.—Ed.

Bermuda Grass.

I came here last spring from Colorado, and have read several articles about Bermuda grass as a valuable pasture grass. Have asked several people around here about it, and some say it is the so-called wire grass. Please give me an answer whether this is so or not. Have also read in your valuable paper of planting Bermuda grass roots, how many bushels per acre would it take and what would be the best time for planting?

JOHN GUENTHER.

Halifax Co., Va.

Bermuda grass is commonly called wire grass in the South, but this grass is not what is known as wire grass or twitch grass in the North and West. A few bushels, probably 4 or 5, would plant an acre, as the roots should be cut up into short lengths with a feed cutter before being planted, and only a few of these be dropped in the furrow as the land is plowed, say every foot or fifteen inches. The grass should be planted in the spring.—Ed.

Rotation of Crops—Lime.

I have ninety acres of land which is enclosed with woven wire fence and divided into three lots of thirty acres each. I have adopted the following rotation:

Lot No. 1—Was in cotton last year, sown to annual clover at last cultivating, clover to be plowed down in May, and land planted to corn.

Lot No. 2—Was in corn last year and sown to wheat and oats last fall, followed with peas after harvesting wheat and oats. Peas allowed to mature and cut with rake raper and threshed with shredder.

Lot No. 3—Was in wheat and oats, followed with peas, then deeply broken and subsoiled in fall and winter and will be planted to cotton this year, and so on until rotation is complete.

My soil is a heavy, gravely red clay loam, with red clay subsoil. I apply four hundred pounds of 14 per cent. acid phosphate per acre to the clover, and peas, and the manure from fifty head of stock, with nitrate of soda or cottonseed meal on wheat and oats during the winter and spring. I have read a great deal in your journal about lime. Would it pay me to buy it and haul it, my farm being fifteen miles from the railroad? Is there no other substitute which can be used in a less bulky form, which would reduce the freight and hauling? I would appre-

ciate any information you would give in regard to my rotation and the fertilizers used. I am always glad to get the PLANTER. W. A. McCONNELL.

Warren Co., Va.

You have adopted a rotation and a system of fertilization which is bound to result in improving the fertility of your farm, and will result in good crops. We are of opinion that a dressing of 25 bushels of lime to the acre once in each rotation would be found beneficial, as it would tend to correct any tendency to acidity and insure better stands of clover and finer wheat. There is no substitute for lime for the purposes for which it is beneficial, correcting acidity and making available inert fertility in the soil.—Ed.

Navy Beans—Velvet Beans.

1. What kind of soil suits them?
2. How to fertilize?
3. How far to plant in rows?
4. How to harvest?
5. What is yield on good soil?
6. Do velvet beans make good hay cured like raw peas?

P. E. GARRETT.

King and Queen Co., Va.

1. In the North, where the Navy bean is largely grown, it is usually said that it will grow on almost any kind of soil, even on that too poor to grow other crops, but a good loamy soil not overrich is the best. When the soil is too rich the crop runs more to vine than to beans.

2. If the soil is thin and poor, give a complete fertilizer having about 2 per cent. ammonia, 7 per cent. phosphoric acid, and 6 or 7 per cent. potash. Mix 1,200 pounds acid phosphate, 500 pounds cotton seed meal, and 25 pounds muriate of potash, and apply at the rate of 300 or 400 pounds to the acre.

3. Plant in rows 2 feet 6 inches apart and 8 or 10 inches apart in the row.

4. A small crop is usually pulled or cut with a scythe or mower, and cured in ricks like peanuts. There is a bean harvester made and sold in the North specially for harvesting this crop.

5. From 20 to 40 bushels to the acre. This crop can be grown successfully in the South. It should not be planted before June. Cultivate the crop two or three times, but never when the vines are wet with rain or dew, or they will mildew. The most difficult business is the harvesting of it, as the beans are then so easily spoiled by rain, being discolored quickly and then have to be sold at a low price comparatively.

6. Velvet beans are not a desirable crop to make into hay. They make such an enormous tangled growth that neither man nor machine can handle

them. They are fit only to use as an improver of the soil.—Ed.

Buckwheat and Clover.

I notice in an agricultural paper a writer recommends the sowing in July of red clover and buckwheat to obtain a stand of clover. Would you advise the sowing together of these two crops in this section?

OSCAR JUSTICE.

Rutherford Co., N. C.

We know one or two farmers in Middle Virginia who sow buckwheat and crimson clover together in July, and speak well of the practice. They say that the buckwheat shades the clover and protects it from the hot sun, and that after the buckwheat is cut the clover makes rapid growth. We think the practice is worth testing with red clover as well as with the crimson.—Ed.

Diseased Plum Tree.

Find enclosed a knot or growth that is ruining my blue plum trees. What is the name of disease and what is remedy for same?

H. GODWIN.

Worcester Co., Md.

The disease affecting the tree is the Black Knot. The only remedy is to cut out all parts of the trees affected. If the knots are not carefully cut out from every tree on which they appear the disease will spread and kill all the trees.—Ed.

Barrenness of Fig Trees.

Noting the enquiry in a recent issue as to a cure for a barren fig tree, our subscriber, Mr. C. De Bruyn Kops, of Wake, Va., kindly sends us the following letter on the subject, which he received from Prof. Massey, of the North Carolina Experiment Station, in response to an enquiry, with permission to publish the same.—Ed:

In reply to yours of the 27th, it is probable that the fig you have is a seedling from one of the imported dried figs, for the seed when scattered grow freely. Seedlings of the Smyrna fig will never hold their fruit here, as we have not the little wasp or *Blastophaga* which is used for setting the fruit in the south of Europe. Recently the Government has succeeded in introducing this insect into California, with the wild Capri fig, on which it mainly lives, and the California folks are growing the Smyrna fig for drying. I have grown many seedlings from the Smyrna fig here, but never had one to hold its fruit. The figs we grow here are of a different class, and are self fertile. I had at one time nearly 100 varie-

ties of figs, but many of the best ones are too tender for any location north of the orange belt, and I have run down to a few varieties. The Celestial or Chinese fig is a small and very hardy fig, which can be eaten out of hand, skin and all, when ripe, while others have an acrid juice in the skin. Of the larger figs, I find the Brunswick the best for our use, though the Brown Turkey is grown here more than any other, and there is a large black fig grown in the eastern part of this State which is quite hardy, but of very poor quality. I received from the Department of Agriculture this spring cuttings of several new figs that are said to be fine and hardy. They are all rooted and doing well. It is useless to try to do anything with a fig that drops its fruit. Better buy trees of reliable sorts. You can get the plants in the spring from P. J. Berckmans Co., Augusta, Ga.

W. F. MASSEY.

Disease of Sheep.

I have lost several sheep this spring. They would first get poor and droopy and then die, though well fed all winter with corn and fodder. When opened, I found their intestines covered all over on the outside with little hard knots or lumps, from the size of a large shot to a pea. Can you give me the cause of this intestinal disease and the remedy?

Spotsylvania Co., Va.

D. J. WALLER.

The disease affecting the sheep is a parasitic one, technically called *Gesophagostoma*, but commonly known as the "nodular disease" or "knotty guts." The parasite is encysted in the little nodules and cannot therefore be reached by any treatment. It is probable that the whole flock will be more or less affected with it, and the safest course is to feed them and send to the butcher. It is believed that the parasite, or its embryo, is taken in by the sheep when grazing on low, wet land. Sheep should be kept off these lands to be kept healthy.—Ed.

Drying a Cow.

Please tell me how to dry a cow that is giving milk, especially if she is fresh to the pail.

Chesterfield Co., Va.

A. S. COLLIER.

A cow may soon be dried by only partially milking her for a few days, and by only milking her every other day for a time, and later by milking her only once a week just to strip out the bag for a few times. Of course a cow fresh to the pail will require more care in drying than one which has been long milking or her udder may become caked and ruined. Whilst drying her keep her on a poor pasture or dry feed and without grain feed.—Ed.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The long continued cold dry weather has caused such crops as have been already planted to make very slow germination and growth, and it is well that this has been the case, as the frosts of the last few days (18th to 21st April) have been so sharp and general from the East to the West of the tier of Southern Atlantic States as to cause great destruction of such growth as had broken through the ground. Even in Tidewater Virginia close to the ocean, beans, peas, Irish potatoes and strawberries have been badly cut down, and further inland everything growing has been badly injured. Fortunately the actual amount of damage done has not been so great as would have been the case had we had a normal spring. Its lateness prevented the planting and growing of crops, and this has been the salvation of the truckers. The dry weather has, however, been of great service, as it has permitted a fine preparation of the land, and crops will now go into seed beds which will ensure early germination and quick growth as soon as the normal warmth of the season sets in. It is to be hoped that this will not now be longer delayed.

Every effort should now be made to get the crops planted as quickly as possible, and this will mean constant work from sun up to dark, in order that arrears may be caught up. Snap beans, lima and butter beans, pole beans, cucumbers, squashes, sweet corn, melons, and cucumbers may be planted and set out as the ground is got ready. Care should be taken to have all plants which have been raised in the hot beds well hardened off before they are set out or they are certain to suffer.

Beans and peas should not be planted in very rich ground, as such land has a tendency to cause them to run to vine instead of seed. It should be in a state of good fertility sufficient to cause moderate growth of vine. Successional crops of English peas should be planted as soon as possible in order that they may make their growth and seed before the hot weather sets in, as this is very liable to cause mildew in this crop. Plant all these crops in long, straight rows wide enough apart so that they can be worked with horse power. In planting lima, butter and pole beans see that the poles are well set in the ground, so that they will not be easily blown over. Dwarf lima beans will save the cost and trouble of setting poles,

and they make a good yield, but not so heavy as the climbing varieties.

Irish potatoes may still be planted for a successional crop, and sweet potatoes may be set out towards the end of the month. In planting sweet potatoes, select good, light, loamy land in a good state of fertility, but not over rich, as this has a tendency to cause the crop to make too much vine. If the land is not sufficiently fertile to supply the needed food which is mainly nitrogen and potash, a fertilizer made up of 150 pounds of muriate of soda or 350 pounds of cotton seed meal or partly of the nitrate and partly of the meal, which is better than either alone, 100 pounds of acid phosphate and 100 pounds of muriate of potash, or 350 pounds of kainit should be applied per acre, and be well worked into the land before setting out the slips. Do not be in too great a hurry to set out the slips, as they never do much growing until the ground becomes well warmed.

Successional crops of sweet corn should be planted every week or ten days up to the end of July in order to secure a succession of ears into the fall.

Cucumbers, canteloupes and melons should be planted as soon as the ground is warm. Have the land well prepared and lay off so that the hills of canteloupes and cucumbers shall be 4 feet 6 inches or 5 feet apart each way, and melons be twice this distance apart. Put a good shovelful of rotted manure or compost into each hill and add a handful of high grade fertilizer having an analysis of 6 or 7 per cent. of ammonia, 4 per cent. of phosphoric acid, and 7 per cent. of potash, and work this into the compost and cover with 3 or 4 inches of nice light soil which make compact, and then plant 4 or 5 seeds in each hill. After the plants have got into the rough leaf thin out to two plants in each hill. Keep well cultivated until the vines begin to run. Keep a sharp look out for melon bugs. To ensure protection from these pests, the plants should be covered with plant bed muslin stretched over light frames. Dusting the plants with bone meal when wet with dew will often prevent the bugs from hurting the plants if they are not in great numbers.

Egg plants require rich, light land and a warm situation. Give plenty of well rotted manure and a

handful of good fertilizer to each plant. Look out for potato bugs on these plants. They are as destructive to them as to Irish potatoes. Paris green should be applied to both this crop and the Irish potato crop as soon as the bugs are seen. It may be applied either as powder or in water—one pound of Paris green to ten pounds of flour, or one pound of Paris green to 175 gallons of water, is about the right proportion.

Tomato plants should be hardened off and set out as soon as the ground is ready. Set in rows 3 feet apart and 3 feet apart in the rows. A light sandy loam high and well drained is the ideal land for tomatoes, and this should then have the proper plant food supplied in close touch with the plants, though well mixed with the soil. It is not desirable to encourage wide root growth of tomatoes as this tends to over-production of vines and light fruiting. The use of rotted barnyard manure is very conducive to the good growth of tomatoes, especially where the soil lacks vegetable matter in its composition. A combination of manure and fertilizer usually does best as the manure lacks sufficient nitrogen to meet the needs of the crop, which, in this respect, are large. A proper fertilizer may be made for using along with the manure of 300 pounds of acid phosphate and 150 pounds of muriate of potash, using this at the rate of 500 pounds to the acre, and mixing same with the manure and soil, and then apply 100 pounds of nitrate of soda to the acre by sprinkling a handful on each hill at the time of setting the plants. After the plants have commenced to grow freely a further application of 50 pounds of nitrate of soda to the acre on the hills may be made with advantage. Do not let the nitrate come in contact with the leaves of the plants or with the roots or it will injure them. In the foregoing we have had in mind the tomato crop in the garden for home use, and not the commercial crop as grown for the canneries. In an article in this issue we deal with this crop and refer our readers interested in the subject thereto.

Keep the cultivator running in all growing crops at every opportunity to force growth and keep down weeds.

See that crates and baskets are on hand for shipping the strawberry, dewberry and blackberry crops as they ripen, and have all arrangements made with express companies and commission men for handling the same, so that when the crops are ready for pick-

ing they may be quickly put on the markets. Ship everything in new, clean baskets and crates, and see that only the best are shipped as "prime." Let the others go plainly marked "seconds." This will ensure the best prices all round.

TOMATO GROWING FOR THE CANNERIES.

In many counties of this State and Maryland the business of canning tomatoes is becoming a large one, with the result that farmers are finding it to their advantage to give more attention to the production of the tomato than when it was grown simply for the supply of the markets as a vegetable. Whilst in producing the crop as a vegetable the first necessity is to secure an early fruiting so as to obtain the high prices of the early market, in producing for the canneries the prime object is to secure a large yield of mature fruit, ripening well all the fruit before the advent of frost. The points to be observed in raising this crop are: 1. The selection of the variety. 2. The growing of the plants. 3. The selection and preparation of the soil. 4. The fertilizing and cultivating of the crop. The first two points should already have received attention. The variety selected should be a one that produces a large smooth solid fruit though often more attention is paid to size than solidity or smoothness. Very frequently local varieties are preferred to those offered by the seedsmen as being acclimated and adapted to local conditions. The plants are raised in the same way as for the market or home crop in cool frames or in a sheltered place protected from the north and northwest winds. Care should be taken not to sow the seed too thickly so that the plants may not be drawn or spindling but have good fibrous roots. The young plants should be encouraged to grow by frequent cultivation so that they may be ready to set out in this and the following month. Any good soil adapted to the growth of Irish potatoes will grow tomatoes but if possible a clover sod or pea fallow should be selected as these crops will have enriched the soil with nitrogen and made it retentive of moisture. Deep and frequent cultivation should be given before the crop is set out in order to render available the plant food in the soil and to permit of the easy permeation of the fine rootlets of the plants. The fertilization of the land should be of such a character as will furnish an abundance of all the elements of plant food and especially of potash. A crop of 10 tons of tomatoes with the accompanying vines will contain 57 pounds of nitrogen, 16 pounds of phosphoric acid and 94 pounds of potash. A fairly good

soil will in a favourable season without the application of any fertilizer produce 5 or 6 tons to the acre and therefore to secure a maximum production an application of 500 pounds to the acre of a mixture made up of nitrate of soda 400 pounds, bone tankage 700 pounds, acid phosphate 400 pounds, and muriate of potash 500 pounds, should be made. This application will provide about one-half of the nitrogen, two-thirds as much potash and all the phosphoric acid called for by a 10-ton crop. For a poor soil 500 pounds of nitrate of soda, 500 pounds of bone tankage, 400 pounds of acid phosphate and 600 pounds of potash should be mixed and applied at the rate of from 750 pounds to 1,000 pounds to the acre. The use of nitrate of soda as the source of the nitrogen secures a quick growth of the plant and prevents a too late growth because of the exhaustion of the nitrogen from its rapid availability. If the crop is planted on a clover sod or on a pea fallow the amount of nitrate of soda used may be considerably reduced without risk to the crop. The fertilizer should be applied in the rows and be well mixed with the soil by running a cultivator through each row. The plants should be set out four feet apart each way and cultivation should begin at once and be frequent but shallow. Twenty tons to the acre have been frequently grown but the average yield is usually from 8 to 10 tons.

CULTIVATING AND MANURING ORCHARDS.

Editor Southern Planter:

Of our many sins of omission there are few that the average man is more persistent in than in neglecting his orchard. Even when the orchard is planted with the view of selling the fruit it is expected, in farm language, to find itself and give big returns or get big abuse. That is, to bear heavily without either cultivation or manuring to speak of.

Nevertheless attention given fruit trees pays as well as attention to any other part of the farm, provided always that it is judiciously given. And when it is remembered that fruit is almost, and probably equally as essential to health as meat, it will be seen that attention sufficient to keep up the orchard pays well if there is no intention of selling the fruit.

When orchards are manured, which is rarely, it is nearly always illy proportioned manure or fertilizer. Stable manure alone is most frequently used. Stable manure being rich in ammonia and comparatively poor in potash and phosphoric acid the result is much wood and little fruit or fruit that is apt to rot. That

is, I mean when the manure is liberally used which is not often the case. For rarely is any kind of manure used in sufficient quantities to affect the trees to any great extent. Still even these small applications will be profitable in proportion to their quantity by seeing that they contain in the right proportions the essential fertilizing properties of ammonia, potash and phosphoric acid. The stable manure could be most profitably used elsewhere. A crop of cow peas can be grown in the orchard sufficient to afford all the ammonia the trees will need to grow fruit well. This pea crop will need no fertilizing except potash and phosphoric acid, both of which are much cheaper than ammonia costing only about one-third as much per pound. These two are also most essential to get a crop of fine fruit.

A good plan would be to broadcast 100 pounds of sulphate of potash and 300 pounds of acid phosphate or dissolved bone to the acre, distributing them evenly over the whole ground. The land should then be broken up and cow peas sown in drills about three feet apart. It will take one bushel of peas to the acre. They will need no cultivation with the hoe and only two or three plowings with a small tooth cultivator.

While sulphate of potash is more expensive than ordinary fertilizer it is exceedingly rich in potash (about 50 per cent.) and as only a small quantity of it is to be used it is not expensive considering the splendid results it gives. It is decidedly the best form in which to apply potash to any kind of fruit, giving fine size and color. Acid phosphate or dissolved bone while not as rich in phosphoric acid as sulphate of potash is in potash is much cheaper, making the cost per pound about the same.

The peas can be saved and the vines cut for forage which should fully pay the expense of the crop. The pea stubble, which is rich in ammonia, can then be turned under, affording all the ammonia needed and also leaving the soil in most excellent mechanical condition. When the trees grow very large they will to some extent overshadow and lessen the pea crop, but if the above plan is persisted in by that time the orchard will be bearing such a fine crop of handsome fruit as to well repay all cost of manuring, etc.

Whether the orchard contains 10 trees or 10,000 it will pay to cultivate and manure it as above described. The cultivation should be shallow the plowing in the peas being done with a light, small tooth cultivator. This cultivating, if properly and timely done, will also have a wonderfully beneficial effect in conserving the moisture. An orchard of fruit in

which the crust is kept broken in a drought retains an amount of moisture above that of an uncultivated piece of ground that is simply astonishing and would be incredible if it was not an established fact proven by the most authentic tests. However, any man can establish this fact by taking the trouble during a drought to dig into a cultivated field and compare that with one on which the crust has been allowed to harden and remain unbroken.

O. W. BLACKNALL.

Kittrell, N. C.

FIGHTING PLANT DISEASES AND INJURIOUS INSECTS.

Editor Southern Planter:

During this month many of the plant parasites will begin their work of destruction upon the crops of the farmer and horticulturist. Those who have not prepared to fight these parasites will nearly always come out losers. Spraying machines should be kept in order and a supply of paris green, blue stone and lime kept on hand. Of course, for plant diseases, one or two sprayings should have been given the trees before the leaves come out, but for bitter rot of the apple, which is about the most serious disease of this fruit in the State, it may be best to wait till the fruit is well formed before spraying begins. However, it is not known yet what is the best method of treatment for this disease. The Virginia Experiment Station has just issued a good bulletin upon the subject which should be in the hands of all those who own orchards.

While pruning a neighbor's orchard recently I noticed many instances of twig blight and cankered places on young trees that had just begun to bear. All such diseased parts should be carefully taken out and burned. If this be not done and we should have anything like a wet season much of the fruit in the orchard would be damaged by bitter rot and many limbs would blight.

Twig blight of pear, apple and quince will make its appearance this month. All blighted twigs should be kept cut out some twelve inches below the diseased areas.

The tent caterpillar often does much damage to orchards. These insects can be easily destroyed if taken while very small. Early in the morning while it is cool, the insects will usually be found "at home" and can easily be "twisted out" by use of a small switch or limb and then all can then be crushed under the foot. These insects are often found in

large numbers upon wild cherry trees and scattered apple trees over the farm. These should be destroyed with as much care as those that appear in the orchard to lessen the number of "tents" that would appear in the orchard next year.

Cedar trees should be noticed for "cedar balls" which will have gummy exudations on them during damp weather in this month. Spores come from these balls to the foliage of the apple trees and cause a leaf blight. The leaves turn yellow and fall off. These "cedar balls" should be destroyed. Large knots occur on limbs of plum and cherry trees. Spores come out from them and infect other trees, frequently killing the trees entirely. These should be cut out at once and burned.

The woolly aphid is frequently found around the roots of apple trees and sometimes whole orchards are seriously affected by this insect. Tobacco dust is one of the best things to spread around the trunks of trees for this insect. If the tops of the trees have been sprayed for scale insects all forms of the woolly aphid that may have occurred in the tops of the trees were destroyed. It is very difficult to fight San Jose scale after the trees have leafed out. So much has been written about this insect that it is not necessary to write more at this time.

The roots of apple and peach trees should be examined carefully for borers. Later on borers may eat around the trees and cause them to die suddenly without warning to the orchardist.

A small sharp pointed knife is a good tool for this work. Look for saw-dust like particles or gummy exudations on the ground at the base of the trees caused by the borers.

For information concerning the preparation and application of fungicides and insecticides, the reader is referred to the spray calendar published in the March issue of the *PLANTER* this year and last year.

Montgomery Co.

R. H. PRICE.

COMBINING POULTRY AND FRUIT.

The combining of poultry and fruit raising is doubly advantageous; the poultry keeping down insects, grubs, worms that injure either the trees or the fruit, or both, and the trees furnishing much needed shade for the poultry. In the apple, pear and peach orchard the advantages gained from having the poultry run in it are very great. Not only do the fowls keep insects and worms in subjection, but the scratching and wallowing in the freshly cultivated soil keeps the droppings stirred in and mixed with the soil so the feeding roots can reach them, and it will be found that the soil will need less frequent cultivating.

Live Stock and Dairy.

SHEEP DIPPING AT EDGEWOOD.

Editor Southern Planter:

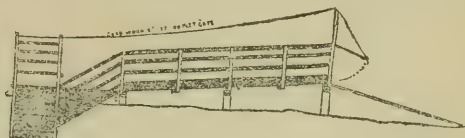
It is dreadful to think of the suffering that sheep endure from scab, ticks and lice. When it is possible to eradicate these pests it seems strange that flock owners will allow their flocks to suffer thus. Besides, it is a big expense to feed these parasites, to say nothing of losses through the poor appearance of the flock. Scab is the worst form of parasite, but fortunately it is not common in the South. The sheep tick is our most common parasite and it is the easiest to destroy. When this number of the *SOUTHERN PLANTER* reaches you, you will be ready to shear your sheep. When the fleece is taken off the old sheep, the ticks go to the lambs and by dipping the lambs the day after shearing you will kill nearly every tick and prepare the lambs for putting on better gains for the last month before marketing. Some prefer dipping the whole flock to make sure of the thing and I am inclined to think it is best and the plan I propose is so simple that it adds very little to the labor to put the whole flock through. In my opinion one dipping a year only holds ticks in check, as there must always be a large number of eggs present at the time of dipping. To satisfy myself on this point I took a lamb that had been dipped and examined it with the greatest care. I found on this lamb twenty eggs or tick cocoons. I may have overlooked some. These ticks are hatched out within ten days, so that a second dipping after ten days will get all of these young ticks. A third dipping in the fall will help clean out these pests. There remains much to be learned about the sheep tick. I have noticed one sheep in a large flock that had been the year before cleaned of the ticks, which was literally covered with ticks, while the rest of the flock seemed about free of them. Where did these ticks come from and why did they single out this particular sheep? I have known the same thing to be true in regard to chicken lice. This one sheep must be choice tick mutton.

I will describe our dipping outfit for the benefit of those who desire to dip their flocks this spring. This outfit has no patent on it, can be made by any good carpenter for the sum of \$12, and is very simple in the working.

I would, however, recommend that the tank that goes in the ground be ordered from some firm that manufactures galvanized troughs and tanks. It should be four feet deep, sixteen inches wide, and should have one side sloping at an angle of 60 degrees.

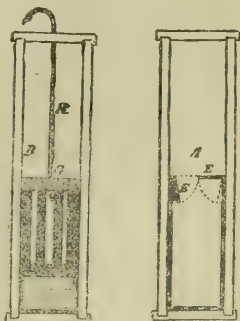
The reason I suggest the galvanized tank is that we found it very difficult to keep the wooden tank from leaking. We had our tank made of tongued and grooved stuff, but the swelling and shrinking opened the joints and we were forced to use paraffin for stopping leaks the second year. The metal tank increases the first cost, but it will save in the end and it will make an outfit that will last for years.

If you get the metal tank, the frame work over the tank, which has the trap-doors attached to it can be easily fitted right over the metal tank and the draining pen can be made to fit into the mouth of the tank. A board with cleets nailed to it can be slipped down the mouth of the tank to enable the sheep to walk out.



Referring to figure 1, you will see general plan. The offset shown in figure is not necessary, as the metal tank can slope up from the bottom. The distance from A to B is four feet. The posts A and B need be only about three feet, just high enough to keep a sheep from undertaking a jump. The trap-doors are made of inch oak and hinged with three strong hinges on each side, so that they naturally fall down on the inside of the tank. As the tank is just sixteen inches wide, the trapdoors make the opening through which the sheep drops only fourteen inches. It will take a good sheep to wedge in that opening. The tank should be narrow to prevent old sheep turning in it.

The trapdoors are shown in one part of figure 2 at E and E. These trapdoors are only eight inches wide, and are pulled up by a rope that divides and is fastened to the far end of the doors. The rope runs over a pulley above and is worked by the man who controls the trapdoors. The trapdoors are held up by an iron plate four inches wide by six inches long, which is welded on an iron rod, which runs through



post B and the one opposite. The rod is turned by an old crank. When the trapdoors are down, the operator first lifts them into position with the rope, then with a turn of the crank brings the iron plate up under the doors. With the lever power at his disposal the operator can easily hold the weight of a one hundred and fifty pound sheep up, so he needs to hold the doors until the sheep walks on them and then by releasing the crank, the sheep takes the plunge. As is shown in figure 2 there is a sliding door, which we may call G that is held up by a rope while the sheep walks on the trapdoors and is dropped as the sheep drops to prevent him from walking right out of the tank. This should be a closed door instead of an open one, so as to prevent the sheep from putting its feet through the slats in its efforts to climb out. The draining pen is eight feet long and the bottom of it is made of tongued and grooved lumber. It is well to have this a little wider than the tank, so that a large sheep will not waste so much dip by squeezing up against the sides. In this case the end next to the tank should be narrowed down to fit the tank exactly and care must be taken to keep this draining pen nearly level, or the stream of dip rushing back towards the tank will overflow on the low side. This draining pen is a great saving of dip. By this simple arrangement it is possible to dip 200 head of sheep without refilling the tank. At the far end of the draining pen is a sliding door, which keeps the sheep in the pen for a few minutes. The man who works the trapdoors can let them out, when the pen gets full. It is a fine idea to squeeze the wool of the sheep that have heavy fleece, as you can thus save a large quantity of dip.

This tank should be sunk into the ground within one foot of the top and placed just outside the door of the sheep shed, where the sheep are in the habit of leaving the shed. A chute should be built in the shed to direct the sheep to the exit.

Fill tank to within eighteen inches of the top and get ready for business.

Fifty sheep are forced into a pen leading into the chute. A boy is needed to keep them crowded up towards the chute. A man stands just inside the chute near the door to work the sliding door that keeps sheep in the tank and to make the sheep come towards the tank one by one. Another man works the trapdoors and the door at end of draining pen. When a sheep walks on the trapdoors, the crank is released and the sheep takes a dive, generally head first, disappearing from view and rising on the swim, before it can say b-a-a. In dipping for ticks and lice the sheep

should be allowed to remain swimming in the tank for one minute. In case of scab the sheep should be rubbed with a stick or brush for three minutes before it is allowed to leave tank. The sheep go upon the trapdoors easily when they see their companions mounting to the draining pen beyond. Sometimes a sheep is ready to plunge into the foaming bath after the leader, before the trapdoors are raised. It is not hard work. In fact, we had much fun watching the different ways the sheep took the dive. It was as much fun as watching a lot of boys jumping from a spring board into the surf.

There are many good dips which mix with cold water readily, such as Daytholeum, Zenoleum, Chloronaphtholeum. These dips, especially the first, will not stain the wool and will not cause the ewes to wean their lambs. Any of them will send the tick to his eternal resting place in a few minutes, if mixed according to directions.

H. B. ARBUCKLE.

Maxwellton, W. Va.

In this issue will be found advertisements of Sheep Dips which we know to be thoroughly effective.—Ed.

ALWAYS TWO SIDES TO A QUESTION.

Editor Southern Planter:

In the February PLANTER appears an article, entitled "The Large Versus the Small Dairy Cow." In this, the writer concludes that the Holstein cow is much superior to the Jersey. He quotes at some length the result of a test made by the Wisconsin Experiment Station, in which the Holstein came out with flying colors. He gives a table of figures showing the result of the test from which I take the following:

	Holstein.	Jersey.
Annual cost of food.....	\$46.46	\$35.22
Annual net profit.....	48.47	41.88

Thus the Holstein cost annually \$11.24 more than the Jersey.

Now, Mr. Editor, it occurred to me that the Jersey was not fairly treated in this test, and I set out to work out the problem in this way. I assumed that my neighbor had three Holstein cows, each of which cost him for their annual keep \$46.46, making for the three \$139.38. Each of these cows gave him a net profit over expenses of \$48.47, making for the three \$145.41.

Now, I take four small Jerseys, which nearly balance the three Holsteins in weight, and they cost me for their annual keep, according to this test, \$35.22 each, making \$140.88 for the four, \$1.50 more than

the three Holstein. They give me in net profit \$41.88 each, making for the four \$167.52. Now to recapitulate:

3 Holsteins cost for keep.....	\$139.38
4 Jerseys cost for keep.....	140.88
3 Holsteins make net profit.....	145.57
4 Jerseys make net profit.....	167.52

Which shows that while the Jerseys only cost \$1.50 more to keep, they made \$22.11 more profit. Its only a question as to which give the most work, taking care of three big Holsteins or four small Jerseys. As for the hardness of the Jerseys, I think they are all right in this State, though they may not be able to stand the cold of Wisconsin and other Northwestern States. I do not blame them for that, I had to leave that climate myself on account of the cold.

Respectfully submitted,

I. ST. PIERRE.

Amelia Co., Va.

TEXAS FEVER.

In our last issue we published on page 264 a communication from Mr. Cobbs, of Orange county, Va., giving a receipt for the prevention of Texas fever. By some carelessness in the printing office this became so mixed up in the "make up" as to be unintelligible. It should read as follows: Salt 5 quarts, slaked lime 1 quart, sulphur 5 tablespoonsful, pulverized saltpeter 3 tablespoonsful. Mix thoroughly and give in place of salt to the cattle at least twice a week. Mr. Cobbs says that using this he never had a case of Texas fever amongst his cattle.

HAY SUBSTITUTES FOR STOCK FEEDING.

In our March issue we published the first part of an article on this subject from Prof. Nourse, of Blacksburg Experiment Station, in which was included a table giving the yield of milk at the beginning and end of the period of feeding. Unfortunately a mistake was made in the captions at the head of the columns to which our attention has been called by a subscriber. The yield is described as "per day." This should read "per week." The figures themselves are sufficient to show the existence of an error somewhere in the table, as cows giving 247 pounds of milk per day, as there recorded, are unknown. We regret that we overlooked the error in the hurry of correcting the proofs.

A FEW LIVE STOCK REMEDIES FROM PRACTICAL STOCKMEN.

Mr. J. O. Thomas, of Isle of Wight county, Va., the well-known curer of the celebrated Smithfield Hams, and himself an old farmer and hog keeper, says that he gets so much valuable information from the *PLANTER* that he feels it only right that he should contribute something that may be of service to other farmers.

FOR DISEASED HOGS.

Arsenic, he says, is one of the best medicines for hogs when threatened with cholera or when a sow is weak in the loins or cannot walk from diseased kidneys, or when she has been served and not proved with pig. He gives the arsenic in doses of a teaspoonful for a grown hog every other day until they have had three doses. He gives the arsenic on a piece of meat, buttered bread, or anything you can get the hogs to take.

FOR SCOURS IN HORSES.

Take a small bunch of sweet mint, such as you use in a julep and cut it fine on a plate, and then sprinkle it on a feed of bran, meal or oats. If given to a mare suckling a colt, it will have the desired effect on the colt, or the juice may be given with milk to a colt which is being hand raised.

Another subscriber gives the following remedies:

FOR GRUBS IN THE BACKS OF CATTLE.

Moisten a cloth with coal oil and rub every other day on the backs of the cattle, being careful to touch each place where there is a grub. This will kill all the grubs, and they can then be squeezed out with the thumb and finger. Two or three applications are sufficient.

WARTS ON HORSES.

Pure hog lard applied twice a week will remove all seed warts from horses.

SCRATCHES.

Horses suffering from scratches should have the legs washed with warm soap suds, then be rinsed with clean water and be rubbed dry. Then apply pure white lead ground in oil. Wherever the lead gets rubbed off apply again each night. Keep the horses out of mud and water and the scratches will soon disappear.

FOR REMOVING A FOREIGN SUBSTANCE FROM THE EYE OF A HORSE.

Mr. J. M. Hughes, of Surry county, says that if the depression over the eye is filled with pure hog lard at night the foreign substance in the eye will usually be released before morning, though sometimes two or three applications are needed.

The Poultry Yard.

BROODING AND CARE OF BROODER CHICKS.

Experience has taught me that common sense and judgment play an important part in the care and feeding of chicks to promote health and growth. I believe it would be a hard task to find two experienced poultrymen who care for chicks the same. I will give you a few words on my work with them. On taking the chicks from the incubators I place seventy-five in number under each hover in my hot water brooder house, the temperature in the hover being about 90 degrees. After twenty-four hours I feed them a little bread moistened with milk; at the same time a little B grade Steelcut Oat Meal (known as pinhead). They have access to sand, fine grit, charcoal and oyster shell from the start.

The first few days I feed very light; commence placing fine, dry, ground chick feed, such as oats, wheat, millet, sunflower seed, barley, corn, etc., in the litter of the pens, which is chaff about two inches deep. I follow nature as closely as possible—make the chicks work for their feed; they need the exercise. Feed four to five times daily the first two weeks, but sparingly during the day, giving them all they will eat for their supper. I feed very little soft feed. Occasionally a mash composed of fine oatmeal, corn-meal, charcoal and a little cayenne pepper. If they show any signs of bowel trouble, I substitute black pepper.

The second week I commence giving them, along with their other feed, a little green stuff, such as turnip tops, clover, cabbage, horseradish leaves, etc.; also, occasionally, fresh ground meat scraps.

When the chicks are two and a half to three weeks old, I let them in their outdoor runs a few hours each day, the weather permitting. They have access to dust boxes. The temperature under the hovers, started at 90 the first week, is gradually reduced to 85 the second week, then to about 80 the third week. Continued extreme heat causes them to feather out too soon, which weakens them. The hovers are constructed so the chicks can go out and in at will, the same as under a hen. My hovers have ventilators in the top. When chicks are too cold, they will crowd; when too warm, they will be restless and pant. At night, when you find them scattered under the hovers, lying on their little bellies, with necks stretched, you can rest assured they are comfortable and contented. After one has had a little experience with brooder chicks, he can almost tell by looking at the chicks if the temperature is about right.

Give the chicks plenty of fresh air and sunshine; also, keep fresh water before them in suitable fountains, which will prevent them getting damp. Clean

pens several times a week. Cleanliness is an absolute necessity.

I usually keep the chicks in the brooder seven weeks, the temperature having been reduced to about 75 degrees. At this time, I place them in outside houses, where they are allowed to run at will in nice weather. Their feed from this time on consists of hulled oats, whole wheat, cracked corn, etc. They get plenty of green food and bugs by having free range. These outside houses are built large enough to accommodate fifty chicks. In bad weather they are shut in and fed inside. Chicks and fowls need plenty of room. These houses are used during the summer, and until time to place the chickens in winter quarters.

Look out for lice and mites from the start. While incubator chicks do not have them to start with, there are many ways in which they get them. An ounce of preventative is worth a pound of cure. Lice put a stop to growth.

It is important to have chicks that are hatched from eggs laid by good, healthy stock. It is impossible to have strong chicks from weak stock. The best of food and care will not remedy this fault.—*H. Heath, in Poultry Success.*

(Mr. Heath raises from 3,000 to 5,000 chickens every year.—Ed.)

CHICKS NEED ASH AND GRIT.

The importance of animal matter and the value of grit for growing chicks has been thoroughly investigated by W. P. Wheeler, of the New York Experiment Station, and the results published in a recent bulletin. As chicks often show a gain of 1,500 per cent. in weight in ten weeks, and ducks may add from 50 to 100 per cent. to their weight weekly, it is patent to every one that they need the proper kinds of food in order to develop properly. Something like 10 per cent. of the body of an average fowl is made up of mineral matter or "ash." Grain foods do not supply more than 3 to 6 per cent. of ash, hence the needed amount must come from other sources.

The test shows that unless sufficient bone-making material is provided, the bones will be small, soft and weak, resulting often in lameness and deformity, or the development will be slow. The necessary amount of bone-building material is easiest supplied in fine raw or cooked bone. Clean grit and sharp sand are also very useful and should always be provided in abundance. For ducks, the fastest and most profitable gains can only be made where animal matter is supplied in addition to grain.

The Horse.

NOTES.

Scarcely a day passes but that I am in receipt of evidence as to the pronounced value of THE PLANTER as an advertising medium from patrons and subscribers alike. This applies to all classes of live stock, and includes the stallions whose names appear in the advertising columns. More mares are being bred this season than during any previous year that I recall. The Spring Garden stallions, Burlingame and Lissak, are receiving patronage, as is Great Stakes, 2:20; Chorister, son of Falsetto; Kelly, 2:27, and Wealth, 2:10. Concerning the latter, Mr. Chapman writes that he has received a number of inquiries and the outlook is bright, and the same prevails in the instance of Kelly. The latter, a son of Electioneer and famous Esther, is doing a rushing business, and high class matrons are being sent to his court from various sections.

Lepanto, 577, the big, fine, standard and registered son of Petosky and a mare by Hunter's Lexington, is doing well in the stud of his owners, Rodes & Bannister, Roanoke, Va. Through his sire he gets the potent blood of George Wilkes, and with that backed up by a rich thoroughbred strain on the maternal side his pedigree is an attractive one. Lepanto stands close to 16 hands high, and weighs over 1,200 pounds. He has sired Wilkie O'Neill, 2:24½, and King O'Neill, 2:31, at two years old. As a yearling Lepanto swept the show ring in Kentucky, and in his maturer years the son of Petosky is an attractive horse to look upon, while his manners and disposition are beyond criticism.

The Virginia bred trotter, Traveller, bay gelding, 5, by Sidney Prince, dam Miss Clay, by Clay, son of Walker Morrill, is doing well in the stable of his owner, S. E. McCargo, of Philadelphia. Traveller worked a mile in 2:21½ last season, and his owner looks for the son of Sidney Prince to trot in 2:12 or better this one.

Hall & Warthen, of Warren, recently shipped a carload of Virginia bred hunters, jumpers and saddle horses to Boston, where orders were received for most of them. These horses are described as a choice lot. Most of them are by thoroughbred sires from general purpose mares, and were bred in Warren and the adjoining counties.

Happy Tie, 2:25½, the bay mare, by Happy Russell, dam Blanche F., dam of Bursary, 2:24½, by Walker Morrill, is owned by General Nelson A. Miles, of Washington, D. C., who will drive her on

the new speedway at the National Capital. Happy Tie was bred by the late Captain Orris A. Browne, Cape Charles, Va. The daughter of Happy Russell is, however, much faster than her record indicates, as I have seen Capt. Browne drive her at a fearful clip on a trot hooked beside a runner to pole. Happy Tie is now eleven years old.

Virginia Jim, 2:12½, the fast bay trotting gelding, by Leewood, dam the famous brood mare, Remembrance, dam El Banecia, 2:17½, etc., by George Wilkes, who was sold recently by New York parties for export to Switzerland, is giving perfect satisfaction in that distant land. The son of Leewood is eight years old, and was bred by James A. Graham, the owner of Gould Hill Farm, Hanover C. H., Va.

Dart, bay gelding by John R. Gentry, who paced to a record of 2:08½ last season, has been purchased by William J. Andrews. This horse was brought here during 1901 by the late George D. Bennett from East St. Louis, who raced him one season down the line of North Carolina fairs. Later the gelding passed to James Stackhouse, Marion, S. C., and from him to John Kinney, Hornellsville, N. Y., and from him to Andrews. Now that Dart is looked upon as the making of a real crack performer, there is some desire manifested to learn the breeding of his dam, which is in doubt. I applied to Mr. Bennett before his death for the information, and he was unable to furnish it. John R. Gentry, the reputed sire of Dart, was purchased by Holt & Scott, of Graham, N. C., during the progress of the Grand Circuit meetings of 1894, but served no mares for them until the fore part of 1905, when M. E. McHenry had him at Freeport, Ill. The famous son of Ashland Wilkes was returned to Graham after the racing season of that year had closed, and got a couple of foals, but Dart was not among them, as I understand it, so it is likely that the bay gelding was bred somewhere in the West.

July 27th and 28th are the dates fixed for the Orange Horse Show, to be held at Orange, Va. The affairs of this association are in a most prosperous condition, and a number of improvements will be made on the buildings and grounds. It has been decided to build a new judge's stand, and the seating capacity of the grand stand will be increased.

Robert Bradley, of Wilcox Wharf, Va., figured among the largest winning owners at the recent Washington Jockey Club meeting. With a stable of home bred horses, most of them by Aloha, Mr. Bradley won \$3,135.

BROAD ROCK.

Miscellaneous.

LEVEES AND IRRIGATION.

Editor Southern Planter:

Why should the Government spend millions of dollars annually in the effort to control the lower Mississippi river in order that a few people, comparatively speaking, may be benefited thereby? A careful, thoughtful examination of the subject will convince almost any one that the cultivation of large areas of bottom lands in the valley of the Mississippi was begun a thousand years or more before nature had properly fitted and prepared the same for its successful, profitable and healthful occupation by man.

The "levee" was a French idea. In purchasing the French claim to this country in 1803, the "levee"—the French idea—was one of the assets. The "levee system"—whereby it is attempted to confine the river, and prevent damage by overflow—was a premature French idea, and has cost the United States Government a few hundred millions already, with much more to follow.

If land was a scarce commodity and high in price and really needed for use, then it would pay to reclaim low lands, just as in the case of the low lands reclaimed by Holland, and other old sections of country where the population is dense and land high in price and all occupied and tilled.

But as long as there are millions upon millions of acres of low priced lands uncultivated, and yet located within easy reach of markets, it does not seem practicable, feasible or sensible to line the lower Mississippi with expensive "levees" in order that the lower bottom lands may be protected from overflow.

It is truly a "Government contract," which the Government has undertaken when it attempts to build a dam on each side of that unruly stream in order to get the surplus waters of a continent off into the sea, without overflowing the adjacent bottom lands. Man proposes, but the Mississippi river disposes.

On the other hand, the same Government is asked to spend other millions to dam the Western and Southwestern streams, so that the surplus waters can be diverted and used for "irrigation" purposes.

Now why this apparent inconsistency and this great haste to reclaim "swamp" lands, on the one hand, and arid lands, on the other, as long as they are not really needed? Spending millions to keep the Mississippi *within* its banks; and spending other millions to get the waters of other streams *out* of their banks, does not seem to be good political economy, seeing that there are millions of acres of tillable arable lands yet lying uncultivated.

If we are to dam the Mississippi and portions of other streams *in*, and dam other streams *out*, in order to reclaim lands not really needed, where, may we ask, are the dam schemes and plans to end?

Such work, on the part of the Government, should not be carried on, except in compliance with the law of "supply and demand." If lands are *needed*, then dam the rivers and reclaim the lands; if *not* needed we had better dam (restrict) Congressional appropriations therefor.

A JEFFERS.

Norfolk, Va.

BIRDS AND THE FARMERS.

Editor Southern Planter:

On page 187 (March issue, Southern Planter), I notice, under headline, "Birds and the Farmer," the following: "Some wisecrack of the Legislature wants to place a price on the scalp of the crow, and the poor hawks are already in many counties thus handicapped."

Now, Mr. Editor, I have been reading practical lessons from your pen for a quarter of a century, and at all times, with few exceptions, your views have coincided with those of practical agricultural people. This last fling, however, at the agricultural element of the Legislature, I think, demands some defense.

The farmer to whom you refer as having killed a crow, and on examination of the crop (craw) found only insects and worms, was exceedingly fortunate not to find in the same receptacle a reasonable proportion of spring chicken, raw eggs, and a gill or more of Adams Extra Early plucked in all its juicy fragrance from the growing ear.

I have observed recently a fast growing tendency for the protection of insectivorous and game birds. In this sentiment I indulge myself to some extent, but I sincerely hope that no tidal wave of sentiment will ever sweep me off of my feet and land me so high and dry in the realms of sentiment that I cannot crawl back to practicability and justice to the struggling agriculturist! Some birds are both insectivorous and pestivorous. If the pestivorous elements of the bird dominate, then he can be no longer a close friend of the farmer. The crow and the hawk is considered in the county of Princess Anne by both agriculturists and agriculturists' wives as being the most pestivorous of the winged species. They both are carnivorous at all seasons, and each of them roll the little chick as a sweet morsel under their tongue

against the earnest and fitful protest of mother hen. The crow is an adept at finding a nest of eggs which some capricious hen has deposited without the prescribed confines for her fruitful deposit.

The above observations are solely of rural experience, and will doubtless be vouched for by many farmers and farmers' wives.

Your suggestion as to the burial or creation of all animal carcasses is, I think, an eminently proper one, and although the scavengers of the air may be placed for a time on reduced rations, yet it will be infinitely better for the purification of the atmosphere and destruction of unhealthy germs.

During the legislative session of 1895-'6 a bill was introduced in the Senate of Virginia to provide this course and sent to the Committee on Agriculture (of which I was a member). My recollections are that the bill passed the Senate, but failed to pass the House.

I hope that your suggestions will be impressed on the next Legislature, and that some bill will be perfected looking to results which you desire.

Geo T. SNEAD.

Princess Anne Co., Va.

In justification of what we wrote with reference to hawks and crows in the article referred to by Dr. Snead, we append the following reported results of the examinations of the stomachs of predatory birds by the agents of the United States Department of Agriculture:

Of 107 stomachs of the long-eared marsh owl examined, one contained a game bird; fifteen, other birds; eighty-four, field mice; five, other mammals; one, insects, and fifteen were empty.

Of 101 stomachs of the short-eared marsh owls, eleven contained small birds; seven, field mice; seven, other mammals; seven, insects, and fourteen were empty.

Of 109 stomachs of the barred owl, five contained poultry or game; thirteen, other birds; forty-six, mice; eighteen, other mammals; four, frogs; one, a lizard; two, fish; fourteen, insects; two, spiders; nine, crayfish, and twenty were empty.

Of 255 stomachs of the screech owl, one contained poultry; thirty-eight, other birds; ninety-one, mice; eleven, other mammals; two, lizards; four, frogs or toads; one, fish; one hundred, insects; five, spiders; nine, crayfish; seven, miscellaneous material; two, scorpions; two, earth-worms, and forty-three were empty.

Of 127 stomachs of the great horned owl, thirty-

one contained poultry or game birds; eight, other birds; thirteen, mice; sixty-five, other mammals; one, a scorpion; one, a fish; ten, insects, and seventeen were empty.

Of 320 stomachs of the sparrow hawk, one contained a game bird; fifty-three, other birds; eighty-nine, mice; twelve, other mammals; twelve, reptiles, or Amphibians; 215, insects; twenty-nine, spiders, and twenty-nine were empty.

Of 562 stomachs of the red-tailed hawk, fifty-four were found on examination to contain poultry and game birds; fifty-one, other birds; 278, mice; 131, other mammals; thirty-seven, Amphibia, or reptiles; forty-seven, insects; eight, crayfish; one, a centipede; thirteen, offal, and eighty-nine were empty.

Of 220 stomachs of red-shouldered hawk examined, three contained poultry; 102, mice; forty, other mammals (shrews, opossum, skunk, chipmunk, mole, rabbit, squirrel, etc.); twenty, reptiles; thirty-nine, Amphibia; ninety-two, insects; sixteen, spiders; seven, crayfish; one, earthworms; two, offal; three, fish, and fourteen were empty.

Out of 103 stomachs of Cooper's hawk, thirty-four contained poultry or game birds; fifty-two, other birds; eleven, mammals; one, a frog; three, lizards; two, insects, and thirty-nine were empty.

The last three hawks are commonly spoken of as chicken hawks.

Similar examinations have been made of the stomachs of crows by agents of the Department and by officers of different States, and these all go to show that though he is sometimes guilty of committing murder and depredation upon chickens and eggs, yet that his food is largely confined to injurious grubs and insects, small mammals, with some grain, and that upon the whole is more beneficial than injurious to the farmer.—ED.

DISPOSAL OF THE BODIES OF DEAD ANIMALS.

Since we received the article "Birds and the Farmers," by Dr. Geo. T. Snead, in which the question of the disposal of the bodies of dead animals is discussed, he has sent us an advance copy of a law passed at the last sitting of the Legislature, which he has received providing for the burning of the bodies of dead animals, of which the following is a copy:

CHAP. 252.—An ACT to amend and re-enact section 2197, chapter 99, of the Code of Virginia, in relation to burial of hogs that died from disease, as amended and re-enacted by an act approved March 30, 1890, and by an act approved February 14,

1896, so as to require the cremation or burial of all animals or fowls that die from contagious or infectious diseases, and fixing the penalties for violation thereof.

Approved March 15, 1904.

1. Be it enacted by the General Assembly of Virginia, That section twenty-one hundred and ninety-seven of the Code of Virginia, edition of eighteen hundred and eighty-seven, as amended and re-enacted by an act approved March thirtieth, eighteen hundred and ninety, and by an act approved February fourteenth, eighteen hundred and ninety-six, be amended and re-enacted so as to read as follows:

Sec. 2197. The owner of any animal or grown fowl which has died from any contagious or infectious disease, knowing of such death from such disease, shall forthwith cremate or cause to be cremated, or bury or cause to be buried, the body of such animal or grown fowl, and if he fails to do so, any justice, after notice to the owner, if he can be ascertained, shall cause any such dead animal or fowl to be cremated or buried by a constable, or other person designated for the purpose, and the constable or other person shall be entitled to recover of the owner of every such animal so cremated or buried a fee of five dollars, and of the owner of every such fowl so cremated or buried a fee of one dollar, to be recovered in the same manner as officers' fees are recovered, free from all exemptions in favor of such owner. Any person violating the provisions of this act shall be subject to a fine not exceeding twenty dollars for each offence.

2. This act shall not apply to any county until the board of supervisors thereof shall adopt the same.

3. All acts or parts of acts in conflict with this act are hereby repealed.

We are glad to know that the Legislature adopted our views on this matter, though we regret to see that the law is inoperative unless adopted by the supervisors of a county. This is a most pernicious system of legislation. If a law is good for the community it ought to be operative when enacted by the Legislature, and should not depend on consent or adoption by any one. If the question sought to be legislated upon is of doubtful expediency, then no legislation should be enacted. Laws which may be made operative or inoperative at the discretion of individual members of a community leave open too great a door for fraud and manipulation ever to be desirable.—
Ed.

When corresponding with advertisers, kindly mention the SOUTHERN PLANTER.

GOOD ROADS.

Another good roads bill has been introduced, this time by Senator Latimer, of South Carolina, appropriating \$24,000,000 for co-operative road construction by the general government and the various States.

The bill provides for a Commission of Highways, under the Department of Agriculture, composed of two presidential appointees, at \$5,000 each per annum, one from each great political party and an officer from the Army Engineer Corps. The road building features are similar to those of the Brownlow bill and other "good roads" measures, and are in effect that any State desiring to co-operate with the general government in road building within its borders, can have federal assistance to the extent of one-half the cost of the construction, the State agreeing to keep the road in repair. There is no question but that the good roads propaganda is making itself felt in Congress, and if the agitation is continued by the farm and other newspapers, an entering wedge in road legislation, it is believed, can be secured comparatively soon. Last Congress the Brownlow bill was introduced and received widespread and frequent notice by the papers; the result is that half a dozen road bills have been introduced in this session. Like all such new legislation involving large appropriations, Congress will put it off as long as possible, until the demand becomes insistent and widespread. The objection raised by some that the work would be paternalistic would apply with fully as much force to the operations of the Post-office Department with its annual appropriation of about \$140,000,000, or the Weather Bureau, or half a dozen other government institutions. Federal "good roads" are coming, if the pounding upon the Congressional door is kept up with sufficient earnestness.

BONE MEAL AS A FERTILIZER.

One of our subscribers, Mr. Groome, of Warrenton, recently wrote the Bureau of Soils at Washington for an explanation of the reason for the long continued appreciable benefit derived from the application of raw bone meal as a fertilizer. The following is the reply received from the Soil Chemist and will no doubt be read with interest. We thank Mr. Groome for favoring us with this letter.

"In reply to your favor of the 12th inst., I would say that we recognize that such fertilizers as bone meal will continue to exercise an influence over crops for a considerable length of time. But taking fer-

tilizers in general and especially the more soluble ones, it seems to be a general law that they prove most beneficial in the initial stages of plant growth before the plants have developed a large and vigorous root system and are, in a sense, better adapted to looking out for their own food supplies.

Raw bone meal is essentially calcium phosphate and is slightly soluble itself. But it is one of a class of substances which is readily acted upon and decomposed by water, forming, in this case, lime and phosphoric acid; and while the lime goes into solution to but a very slight extent, a fairly large amount of phosphoric acid is dissolved. The amount that will be dissolved depends largely on the proportion of solid phosphate to the volume of water, as will be seen from the accompanying table. While it takes some days for the solution to dissolve all the phosphoric acid it can, the larger part is taken up in a few hours. Carbon dioxide, which is always present in the soil and soil moisture, helps to dissolve phosphoric acid from calcium, although this would not be expected on the basis of current theories. In five hours, at ordinary room temperature, we have found that a mixture of equal parts of lime phosphate and lime carbonate when treated with 250 times its mass of water gave about two parts per million of phosphoric acid to the water, but when carbon dioxide was also passed through the solution, about 42 parts per million, or 20 times as much, was given. Therefore, on account of the slight solubility of lime phosphate on the one hand, and its decomposition by water on the other hand, a substance containing it will yield a comparatively steady, small supply of phosphoric acid for a relatively long time, that is, until all the phosphoric acid has gradually gone into solution.

I think the above statements meet your inquiries, and I shall be glad to assist you further if you may require it.

By order of Chief of Bureau.

FRANK K. CAMERON, *Soil Chemist.*

Solubility of Calcium Phosphate ($\text{Ca}_3\text{P}_2\text{O}_8$) in water free from Carbon Dioxide (CO_2).

Parts Calcium Phosphate per 1000 of water.	Parts Phosph. Acid (P_2O_5) dissolved per 1000 of water
400 .....	.09183
400 .....	.6760
100 .....	.5083
50 .....	.2857
25 .....	.1615
16.66 .....	.1246
12.5 .....	.0982

10 .....	.0845
5 .....	.0507
2.5 .....	.0318

PRESERVING EGGS IN WATER GLASS.

The most simple and efficient method of preserving eggs for several months is by covering them with a solution of water glass. This preparation has been tested by various experiment stations and has proved to be the best of any methods yet discovered, except artificial cold storage. It is being used to some extent in a commercial way, as well as by many farmers and housekeepers who wish to pack away eggs in spring when they are cheap and plentiful for use during the fall and winter months.

Strictly fresh, clean eggs are necessary to put down. Stale or dirty eggs will not keep well. Eggs should not be washed. They should be packed, preferably small end down, in a stone jar or other suitable vessel, which should be placed in a cool, dark place. To ten or fifteen quarts of water, which has been boiled and cooled, add one quart water glass (sodium silicate), which may be obtained of most druggists. A good grade of water glass should be used. The vessel should be kept tightly covered to prevent evaporation. If the eggs are kept in too warm a place the silicate is deposited and the eggs are not properly protected. The solution may be prepared, placed in the jar and fresh eggs added from time to time until the jar is full, but be sure that there is fully 2 inches of the solution covering the eggs.

The eggs may be taken out from time to time as needed. They will be covered with a jelly-like solution, which is easily washed off. All packed eggs contain a little gas and in boiling the shell will crack. This may be prevented by making a pinhole in the large end of the egg before cooking. One farmer in Maine reports preserving 6,000 dozen eggs last season by this method. He sold them in December and January and received the same price that strictly fresh eggs sold for. While eggs preserved in this way are not as good as new-laid eggs, they are better than the usual run of fresh stock to be had at the stores.

TO KEEP INSECTS FROM MEAT.

When meat has been in salt long enough, and is ready to be smoked. Wash nicely in a tub of hot water, using corn shucks or coarse rag. When the water becomes too greasy throw it out and put in clean. As soon as a piece is washed, sprinkle it

lightly with borax and sift on black pepper before the meat is dry, and hang it up for smoking.

J. O. THOMAS.

Isle of Wight Co., Va.

WHAT HAVE CLUBS AND INSTITUTES DONE FOR US?

AN ESSAY READ AT A FARMERS' INSTITUTE IN FREDERICKSBURG, VA., MARCH 19, 1904, BY DR. AUG. STABLER, OF MARYLAND.

After being invited to present this subject, I made a pilgrimage to the house of the venerable secretary of our club in order to extract from the most complete and systematic records in his possession a few items of interest to other agricultural communities.

The first minute was made in 1844, as follows: "We propose forming an association for improvement in agriculture upon the sociable principle of mutual interchange of visits. For this purpose we agree to meet in the afternoon, once a month, taking each member's house in alphabetical rotation. When assembled we shall proceed to inspect the crops, stock, farm implements and contrivances, and inquire into the modes of culture and system of arrangement generally pursued by the member at whose house we may be. A free interchange of ideas upon agricultural subjects will be expected upon the part of all, and if any member is making experiments which are likely to prove useful or interesting we shall take especial care to notice their progress and results."

"We adopt for our government no rules or regulations other than those which should always prevail in good society, with the single exception that it shall be both the privilege and the duty of each member to criticize freely the arrangements that may come under his examination." This club has never changed its constitution and by-laws in sixty years, and is still as vigorous as ever. Many other similar organizations in our county and other parts of the State have been formed on the same broad lines. In the sixty years there have not been six meetings missed. Death or sickness being the only reason for passing a meeting. At the first meeting of this club the attention of the members was called to the effect of bone dust in causing a luxuriant growth of grass on a poor field. In the same year another member of the club tried the first experiment in Maryland with Peruvian Guano. Eighteen hills of corn treated with guano produced nineteen and one-half pounds of ears, while eighteen similar hills without guano produced seven and one-quarter pounds of ears. About the same time experiments with lime were in progress by the members, which produced good results on some farms and not so good on others.

In those days, before commercial fertilizers were

obtainable, or their use known, our country was very poor. Worn out fields, covered with sedge, briars, scrub pine, flint stone and gullies were the rule. Overgrown fence rows, razor back hogs, cows that made two pounds of butter a week, and corn fields that made eight barrels of corn on seven acres. This same year my father, who was a druggist in Alexandria, Va., and whose health had failed in that business, moved on to the farm where I now reside, and joined the club at its first meeting. When he took the farm there was nothing on it but an old tumble-down log cabin, no grass, no trees, nothing but sedge, briars, flint stones and gullies.

His brother, from Alexandria, came out to see him, stayed three days, and never smiled while he was there. He saw nothing but starvation ahead. Within my recollection on this same farm, father raised 40 bushels of wheat to the acre, $2\frac{1}{2}$ tons of hay, 335 bushels of potatoes, and one year he obtained 750 bushels of splendid peaches from one acre, and sold them for \$2 a bushel at home. This yield of \$1,500 from one acre in a single season has so far as I know never been exceeded in our State. These maximum yields, however, have not been repeated many times on any one farm in our section, but the testimony of many impartial judges who have frequently visited our section from all parts of the country is to the effect that taking into consideration the intelligence and probity of the people the orderly well kept farms, the quantity of stock kept, and the general attractiveness of the neighborhood, the region covered by the club, and the other organizations growing out of it will compare favorably with any similar section of the United States. Last summer Mr. A. D. Shamel, of Illinois, who gave us one of his most valuable talks on corn, was surprised and charmed with the delightful social atmosphere which he found pervading the whole community. It was for many years plainly marked as an oasis in the desert.

There are now four clubs and two granges in the county, and for the last thirty-one years these organizations have joined together once a year and held a Farmer's Convention in the Lyceum at Sandy Spring. These meetings are always largely attended by old and young from far and near and bring out a large number of short, spirited talks from the many learned, practical men who are always present. On several occasions we have received the aid of experts on special subjects, but local talent is always abundant. These meetings exert a powerful uplift not only by making friends of men who did not previously know each other, and by disseminating agricultural information and the conclusions of the doctors on mooted points, but also in securing united action upon matters needing legislation. In short, here is a neighborhood where farmers have been accustomed to come together and work together on all

matters concerning their mutual interests. There is a mutual fire insurance company, the oldest and largest in the State that was wise enough to stick to country property and did not lose one dollar in the Baltimore fire. There is a savings bank that is exceedingly well conducted and flourishing, a national bank that is equally successful, and two turnpike companies that have built three parallel lines of good road to Washington. When Farmer's Institutes were started by the State about six years ago it was thought by the director that we who had so many organizations and ways of obtaining information did not need the Institutes as much as other parts of the county that had no clubs or granges. He tried hard successive years to get up meetings at other points, but his lecturers always had to talk to very small audiences. Without the clubs to pave the way and awaken a desire for up-to-date, progressive ideas no amount of advertising would bring the farmers together. Without some dry wood it is very hard to kindle a fire. *No local organization, no successful institute*, has been the invariable experience. When the Institute was held in or near Sandy Springs, however, we always had not only a good sized crowd, but a highly interesting, instructive meeting. Intelligent, practical questions from the audience kept the speakers busy, and the practical information obtained from these experts has in many cases resulted in far-reaching improvements in our farming methods. At the first Institute held here it was clearly proven as the result of a warm discussion between certain old and successful dairymen and the speaker from another State that the dairymen of this community were missing a great opportunity by not having silage. Silos of the old-fashioned type had been built years ago and abandoned as unsatisfactory. It was shown just where the trouble was, and the following year witnessed a general building of silos and a correspondingly great increase in the production of milk. We are now thoroughly convinced that four acres of corn in the silo will produce more milk and butter than five acres of the same corn field cured, and the work of harvesting and preparing the crop is all done in two or three days, instead of being strung out over two or three months. When we add to these advantages the fact that more forage can be produced on an acre intended for silage than on a similar acre intended for grain because thicker planted, and that we can grow cow peas and corn together and harvest the combined crop with the corn binder fast enough to keep a big engine and cutter busy putting it into the silo, it is evident we have made a step forward. Crimson clover is another crop which for many years was only experimentally grown by most of us, with frequent failure to secure a stand, but has now come to be one of the most valuable of our forage crops since we have learned, after

many trials, how best to manage it. To our State Experiment Station is due the credit of keeping up the cultivation of it, and repeatedly demonstrating its value. On our dry, hilly lands we frequently failed to secure good stands of it when seeded as a catch crop in growing corn. Not until we learned that it will pay to prepare land specially for it in order to get the very valuable crop of hay which, on good land, it is capable of producing, did we make a place for it in our system of forage crop rotation. With us, it is the only leguminous hay crop which can be harvested in May in time to plow and fit the land for another crop.

This second crop may be either corn and cow peas for silage or sorghum and cow peas for hay, or millet and peas, or sweet corn and peas, or peas alone. Thus on our valuable, rich land, which is close to the silo and convenient to manure from the barn, we can grow four crops in two years, all of which are fed to the cows, except the wheat, the straw of which is needed to bed them. The wheat is sold and the proceeds used to buy concentrated feeds to balance the ration. These four crops are corn and cow peas, wheat, turnips and crimson clover. The wheat stubble is plowed as soon as possible after harvest, rubbing down each afternoon what is plowed up in the morning, and harrowing when in good condition after rains till the middle of August. Then it should be fine level and solid, ready for the seed. Put on 20 pounds crimson clover seed and one-half pound Globe turnip seed to the acre. The two kinds are carefully mixed together and may be scattered with a broadcast seeder and harrowed in or it may be put in with a wheat drill. The latter method is best where fertilizer is needed, but where barn manure is applied the phosphate, preferably dissolved rock, should be mixed with the manure before it is hauled out. The turnips are harvested about December 1st, as follows: They are pulled up, thrown into piles on the ground and allowed to wither for two or three days, then when dry haul them to a convenient place near the barn and pile them, tops and all, in a long, narrow rick on both sides of a fence and cover with corn fodder. In handling the turnips we use a broad, short handled fork such as is used for moving coke, potatoes, stones, etc. They are thus forked up from the piles in the fields into a dump cart and hauled to the rick, where they are dumped and forked up into place. When feeding them to cows in winter the turnips are forked from the rick into the cart and hauled out onto a blue grass sod where they are scattered for the cows to eat in the middle of the day. It is found that even when a cow is getting everything else she needs, turnips will increase the milk. They do this not by the actual nourishment in the turnips, but by some undiscovered vital principle which aids the digestion of other food. It has long

been known that plants of the turnip family have the power of digesting the crude elements of fertility in the soil, which are made available by certain secretions of their roots, and it is probable that a similar digesting process occurs when the turnips are brought in contact with coarse fodder in the cow's milk factory, her stomach.

By making the very best use of all the home raised feeds and raising as much as possible of them we are certain that it is possible to make a herd of cows fresh in the fall, give more milk in the year than if fresh in the spring. A cow that is made comfortable in a warm, clean, well ventilated, well lighted stable, with water and salt before her, fed on corn and cow pea silage mixed with bran and cotton seed meal twice a day and with a little crimson clover hay and turnips for the noon feed, will give as much milk in January as the same cow would on the best of blue grass in June. She needs no exercise. That should be taken by the man who milks and feeds her. Some of us are trying alfalfa, but so far with rather poor success. The success with it at the Experiment Station is very encouraging. We hope that when our soils become sufficiently clean, rich and properly stocked with the right bacteria, this crop will enable us to farm with fewer horses to do the plowing, and will also enable us to avoid that other heavy expense, the buying of protein feeds."

A very lively interest was manifested on the part of the practical farmers present at the Institute, in the subjects of soil improvement and forage crops as presented by the lecturer, and many questions were asked, among which were the following: "At what stage of growth do you cut crimson clover, and how do you cure and handle the crop?" Cut it when the lower two-thirds of the flower head is dead, leaving the top third still bright red. It is harder to cure than mixed hay, and requires more time in the field and in shock before storing. When putting it into the barn it is important *not to tramp or pack it*. Let it lie as loosely as possible and not over eight or ten feet deep in one place. There are always plenty of empty mows at this season, and it is better to distribute it around to avoid the danger of mow burning. When cured it is worth \$20 a ton to the dairyman, for it has 16 per cent. protein and is just as good as bran.

How do you harvest cow pea hay? Prof. Massey's plan seldom succeeds with us, though we have frequently tried it. We reluctantly conclude that cow pea hay alone is very difficult to cure in our damp climate, though by the following method we can always save it in fair condition. Remove the track clearer from the mowing machine, and cut the peas down, then when withered and before the leaves dry enough to shatter put it together by hand into small piles. If the crop is heavy it is better not to

use a horse rake. When the top of the pile dries turn it over, but do not shake it out. This turning may be repeated as often as necessary till the whole is thoroughly cured, and then haul in and store as crimson clover, not more than eight feet thick, and avoid packing. I prefer to mix cow peas and sorghum together on good land, because of the greatly increased yield per acre, and the greater ease of curing the crop. This crop may be handled with as much certainty of results as mixed hay. The sorghum stalks prevent packing and heating in shock and stack, and when stored in small stacks, ten feet in diameter and twelve feet high, is certain to keep and prove a palatable, nutritious feed for cattle, sheep, horses and hogs. I fork it into small piles by hand, and when these are partially cured I combine them into large shocks and let stand about a week till well cured. Then make a long, low rack of poles on a four wheeled wagon and haul the shocks to the stack.

"How did your father improve his run-down farm?" He always wore a smile on his face and had lots of friends, especially among the laboring class. He used bone dust, guano, thorough cultivation, barn yard manure and brains.

"How would he do it now?" Probably with South Carolina rock, cow peas, crimson clover and stock.

You said that you were in the habit of buying concentrated feed, such as bran, linseed meal, cotton seed meal, etc., and also that crimson clover, cow peas, and alfalfa would take their place. Why do you not raise enough legumes to do without the concentrates? We ought to, but we have not always done it. Red clover, on which we formerly depended, has very generally failed of late years. Alfalfa is only in the experimental stage on our farms. Cow pea hay is hard to cure, also crimson clover. Cotton seed meal is what we buy most of. That has a decided effect in stimulating the secretion of milk, besides furnishing the protein and phosphates to balance the ration. Physicians are now successfully using it in very small quantities to increase the secretion in nursing mothers, who have not enough for their babies.

How do you plant corn and cow peas together so that they can be harvested with the corn binder? Use Wonderful Peas and White Corn. Mix together half and half and plant with a two-horse corn planter in rows four feet apart, and so that the corn plants stand eight or ten inches apart in the row. If the rows are closer than four feet, the pea vines reach across from row to row and make it somewhat harder to harvest, but with the Deering corn binder we find little trouble in cutting it fast enough. We like planting the corn and peas in the same row better than to plant the peas alongside the corn.

When writing, mention the PLANTER.

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J. F. JACKSON,

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BUSINESS MANAGER.

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PUBLISHER'S NOTES.

TO ADVERTISERS.

We wish to impress upon our advertisers the necessity of having ALL advertisements, no matter whether new or change of copy, in our office by the 24th of each month. Advertising forms close on the 25th. We are compelled to leave a number of advertisements out of each issue because they are received too late.

Subscription Offer.

Should any person, who is not a subscriber to the SOUTHERN PLANTER, read this notice, we beg to ask that he will take it as a personal one to himself. We want him to join the ever-increasing army of readers of the SOUTHERN PLANTER, and to that end will accept a trial subscription for the remaining numbers of this year for 25c. We hope he will find this issue so valuable and interesting that he will want to have this magazine come to him regularly. Send remittance in the most convenient form.

Whose Money?

On April 5th, we received a fifty cent piece in one of our self-addressed envelopes, without any evidence of who the sender is. As near as we can decipher it, the post mark is Blacksburg, Va. We cannot, of course, give any one credit until we know who sent the money.

A NEW BALING PRESS.

The DeLoach Mill Mfg. Co., of Atlanta, Ga., who have been advertising their saw mill machinery with us for years, have perfected a new baling press which is now on sale and will be extensively advertised in a short while. The new Triplex Baling Press is the name given it. This company started out to produce something simple, rapid and self-feeding. They claim to have accomplished all this and something more. We have not the space for a full description, but advise all interested parties to send for a descriptive circular which will be promptly mailed to all inquirers. Address Box 600, Atlanta, Ga.

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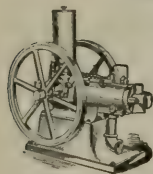
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DIRECT COUPLED OR BELTED DYNAMO:
Sizes from 1 to 60 H. P.

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Send for Catalogue, Department 37.

Portable Outfits—Dynamics—
Marine Engines.

PLANTERS,

farmers, ginners, cane grinders
and others desiring a convenient
and highly efficient power.
Nothing equals this little outfit.

Leffel Engines

and Bullers are the standards of excellence wherever known. They find a host of uses on plantations and farms and are available in price as to come within reach of all. We make them like cut, horizontal, mounted, etc., from 3 H. P. up. Write to-day telling us what you wish a power for and we will mail you free, our book entitled, "Power from 3 H. P. and up."
James Leffel & Co. Box 134, Springfield, Ohio.



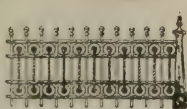
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STEEL TANKS,
Plain and
Corrugated.



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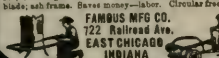
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O. K. HARRY STEEL WORKS, 2333-5 Maple St., ST. LOUIS, MO.

ONE
MAN
SAW

THE CHAMPION

one man saw backs and doubles the output.
ONE man can saw over ONE acre per hour. Weight of operator furnished bulk of power. Cut any size timber, standing or down. Weighs 60 lbs. Fine steel blades, saw frame. Beware cheap imitations. Circular 200.



FAMOUS MFG CO.
722 Railroad Ave.
EAST CHICAGO
INDIANA

THE HUMAN SIDE OF ANIMALS.

Wild animals in captivity should furnish interesting objects for the study of this question; and we are tempted in this connection to give the testimony of George Conklin, Barnum & Bailey's well-known animal trainer. He says:

All animals have a distinctly human side, but there is a striking difference in the mentality of animals of the same species, just as there is among men of the same race. Some animals of the same family are "smarter" than others. All, however, give evidence that they not only think, but also that they have their likes and dislikes, their hopes and fears, their pleasures and pains, just the same as human creatures.

No one who is at all familiar with animals questions the fact that they are capable of genuine affection and, at the same time, can hate with a vindictiveness not surpassed by men or women. I have seen lions and tigers manifest the greatest uneasiness over the absence of a familiar keeper, and the most apparent evidences of pleasure on his return—purring, licking his hand, and in other ways showing their affection. Within an hour I have seen these same animals turn upon a keeper they didn't like and nearly tear him to pieces.

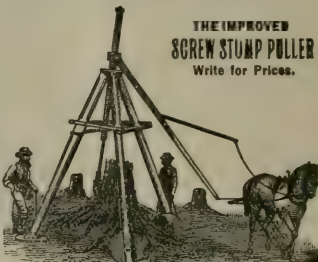
Elephants are even more pronounced in their likes and dislikes. The first year the Barnum & Bailey circus was in London, we had an elephant man who had an exceptionally violent temper, and when out of humor he was inclined to be unpleasantly rough with the "bulls." I had noticed the elephants looking at this fellow and following his movements with their little beady eyes, and I never doubted but that at the first opportunity they would get even with him. The animal man's name was Cooper, and at Olympia he was usually on the night watch. One night, shortly after the show was out, I heard a commotion in the elephant pen, and running down the line of "bulls," I found Jack Mooney, one of our best elephant men, lying on the ground, with old Babe, the mother of the first baby elephant ever born in America, standing over him. There was no time for hesitation. Without thought of the possible consequences, I ran up to Babe, commanded her to move back, and pulled Mooney out of the way. It was evident that the elephant had attacked him and knocked him down, but what I couldn't understand was why, after getting the man at her mercy, Babe did not crush the life out of him. Mooney, who was only partially stunned, gave the only plausible explanation of it. Cooper had asked him as a favor to remain on watch, and had gone away. Mooney, who was a favorite with the elephants, and always careless in passing them, approached Babe in the gloom. The elephant, undoubtedly thinking it was

HENCH'S 20th Century Steel Ball Coupling Cultivator



With Double Row Corn Planter and Fertilizer Attachment Complete on One Machine.
Parallel beam movement, pivoted axle, with lateral beam movement in connection with the movable spindles, or other independent of each other. Centre lever for spreading and closing shovel gangs. The most complete cultivator on the market, having every possible movement of the shovel gangs.
The HENCH & DROMGOLD CO. Mfrs., York, Pa.

THE IMPROVED SCREN STUMP PULLER Write for Prices.



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HERCULES STUMP PULLER



Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centerville, Iowa.



**WARRINER'S
CHAIN HANGING
STANCHION.**
CLEAN, SAFE,
COMFORTABLE.

MFG. BY W.B. CRUMB, Forestville, CONN.

Make Your Own Fertilizer

at Small Cost with
Wilson's Phosphate Mills.



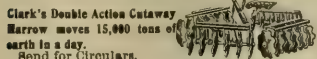
From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Grain Flour Hand Mills, Grit and Shell Mills. Send for catalogue.
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Easton, Pa.

LATEST
DEHORNER
Every
Dehorner
Guaranteed
THOUSANDS IN USE.
Ask your hardware dealer for them or write
H. H. BROWN MFG. CO., DECATUR, ILL.

Clark's Tools for Large Hay Crops



Clark's Rev. Bush Plow and Harrow cuts a track 5 ft. wide, 1 ft. deep. Connects the subsoil water. It is an excellent machine for covering in sugar cane. Strength guaranteed. Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.



Clark's Rev. Sulky Disc Plow Made single or double. One or two furrows five to ten inches deep; 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charlock, hardhack, sudowood, milk weed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seeding to grass.

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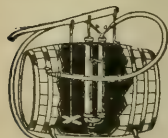
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E. F. SCHLICHTER

1910 Market St. PHILADELPHIA, PA.

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Defender Sprayer

All brass, easiest working, most powerful, automatic mixer, expansion valves, double strainer. Catalogue of Pumps and Treatise on Spraying free.

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The Pump that Pumps

Ask Your SPRAY PUMPS DEALER

WATERS PUMPS

Store Ladders, Etc. Farm Door Hinges Aluminum Finished

HAY TOOLS

Glass Valve

of all kinds. Write to: C. H. Co. and Erie, Pa. 222 Myers & Son, Ash Grove, Wis.

CHAMPION COMBINED GASOLINE ENGINE AND HAY PRESS

At it for 30 years and right up-to-date. Presses of every style and for every purpose. If wanting a Baling Press write to FAMOUS MFG. CO. 722 RAILROAD AVE. EAST CHICAGO, IND.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Cooper, and delighted to find the hated keeper of his guard, suddenly swung her trunk around and felled Mooney to the ground. The next moment the elephant man would have been crushed under the feet of the brute, but in some way Babe discovered her mistake, and, instead of further injuring the favorite keeper, gently turned him over with her trunk and sought in her dumb way to revive him.

Mooney was only half conscious of all this, and the idea was probably evolved to some extent from his knowledge of the elephant and her character; but a few minutes later, when he had sufficiently recovered from the blow he had received, he walked up to Babe, spoke soothingly to her, and put his arms around her trunk. And the way that old elephant responded to his caresses was beautiful to see. She was all contrition for what she had done—any one with half an eye could see that, while the genuine affection she had for Mooney and the delight she felt over his providential escape was evident in every movement of her great body. Just a week from that night Babe actually caught Cooper in the same way, knocked him down and nearly crushed out his life under the weight of her body. Here you have the entire gamut of human passions and emotions—love, hate, memory, calculation, regret, contrition, atonement, revenge. Absolutely nothing lacking but speech—and who ever claimed that the power to articulate was a pre-requisite to the possession of a soul?—Country Gentleman.

SCIENCE IN FARMING.

Good, hard, clear thinking is essential to success in any business and as applied to farming must go hand in hand with hard work. That the American farmer is grasping every opportunity to acquire scientific knowledge that will enable him to meet and solve the problems which every day come up in the successful operation of his farm, is a matter of note. We find several indications of it. A few years ago at the farmers' institutes, occasions on which the farmer would closely follow the lecturer with a series of searching questions were rare; to-day on the other hand, it is a common experience to hear a farmer thoroughly question the lecturer and even offer the result of his experiments. But this is not the only fact which demonstrates that the farmer is doing hard thinking. Equally as noteworthy as the above is the fact that more farmers every year realize the vast saving in time and labor that results from the use of the Champion harvesting machines. The progressive farmer knows that the Champion machines are an essential element in successful farming and consequently buys them, and the increasing number of these machines bought each year is an encouraging indication of the rapid progression of our farmers.

YOU Can Save a Lot of Money! Can Save a Lot of Money! Can Increase Your Comforts! Can Increase Your Profits!



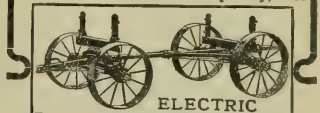
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More than a million and a quarter of them are in use and several hundred thousand farmers say that they are the best investment they ever made. They'll save you more money, more work, give better service and greater satisfaction than any other metal wheel made—because They're Made Better. By every test they are the best. Spokes united to the hub. If they work loose, your money back, the hub. If they work loose, your money back, the hub. It may save you many dollars and it's free.

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GOOD TOP BUG-GIES \$28.35.

Two Years Guarantee

COLUMBUS QUEEN \$19.50

On 30 Days Free Trial Catalogue Free.

THE OHIO VEHICLE & HARNESS CO., Columbus, O.



WE'LL PAY THE FREIGHT

and send 4 Buggy Wheels, Steel Tire, on - \$7.25 With Rubber Tires, \$11.00. 1" tire, wheels \$4 to 14" road. Top Buggies, \$22.75. Harrows, \$2.50. Write for catalogue. Learn how to buy vehicles and parts direct. Wagon Umbrella FREE. W. V. BOOB, Cincinnati, O.

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THE FONTAINE SHOCK BINDER is used and recommended on the Test Farms of the United States, Virginia, North Carolina, and Illinois. It is a strong wheelless, weighing three pounds. Saves labor. Prevents shocks falling. Keeps shocks dry inside. Sent by express prepaid for \$1.50. Write for free circular with testimonials and directions for cutting and shocking corn. Agents wanted. FONTAINE SHOCK BINDER CO., Christie, Va.

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Iron and paper roofing, nails, builder's hardware, sash, doors, etc., carriage and wagon goods, paints and oils, cook and heating stoves, guns, pistols, rifles, "Robin Hood" loaded shells. Do you use any of the above? Write us.

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Fitting glasses for us. Big profits. Our 84-page FREE EYE BOOK tells how. Write for it. JACKSONIAN OPTICAL COLLEGE, Dept. 206, Jackson, Mich.



CREAM Separators

have been sold too much on talk. We sell ours on trial. Try it on your own farm. The American will pay for itself even though you have but a few cows. The price is remarkably low. The machine is a money maker. Write for separator book. Mailed free.

American Separator Co.,
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Won Medal at Paris Exposition.

If You Have Not Been Able to Get a
Hydraulic Pump or Ram
and are in need of one, we are just introducing our new standard HYDRAULIC PUMPS, the simplest, best, cheapest and most convenient in every way, and you can secure one at cost by writing the

STANDARD HYDRAULIC PUMP CO.,
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RIFE HYDRAULIC ENGINE

Try it 30 Days Free.

Constant water supply in your home or buildings anywhere above stream. Water power does it. Keeps going day and night with no attention or running expense. Get our free catalogue.

RIFE ENGINE CO.,
126 Liberty St. New York.

VIRGINIA DIVISION.

FARMER'S MUTUAL BENEFIT ASSOCIATION.

Chartered by State of Virginia.

A fire Insurance Association for farmers of Eastern Virginia.

Organized January 9, 1893; amount insured January 9, 1904, \$370,000; policies secured by real and personal property, estimated value, \$1,000,000. For further information address CHAS. N. FRIEND, General Agent, Chester, Va.

THE KEELEY INSTITUTE GREENSBORO, N.C.

For the treatment OF THE LIQUOR, OPIUM, MORPHINE and other Drug Addictions. The Tobacco Habit, Nerve Exhaustion

WANTED

A single white man to take charge of the grounds of the Virginia Club, and to live on the premises. He should know something of flowers, shrubs, etc. Apply to JAS. McGRAW, 1323 E. Main street, Richmond, Va.

WORKING MANAGER

Wanted on a farm 40 miles from Richmond; must work as well as manage farm; good offer to right man; no drinking man need apply. Address Box 485, Richmond, Va.

No More Blind Horses For Specific Ophthalmia. Moon Blindness and other sore eyes, Barry Co., Iowa City, Ia., have a sure cure.

THE HARVEST.

The most vital work of the nation is that of gathering the grain. At the same time it is one of the hardest tasks as well as one of the severest tests of endurance; and strange to say the world pays little attention to this important work, for the man on the binder is a man worthy of his rank among men.

In the heated days of a long, dry summer the harvest of grain becomes a siege of endurance, which muscles cannot always withstand. With heat ranging from 80 degrees to 110 degrees the farmer steadfastly sticks to his binder day after day and never wavers, cutting away the sheaves of golden grain.

And what is the essential feature of this great work? Could it be done without a binder? And can it be done with a poor one? McCormick binders were made especially to meet the severe conditions just spoken of. Things always seem to go wrong when the mind and body are straining every nerve to accomplish a certain purpose under adverse circumstances, but the user of the McCormick binder may rest assured that trouble will never come to him when using one of these machines, no matter how hot the sun, or how tangled and heavy the grain may be, for his binder is a binder with a record.

HANDSOME HORSE PICTURE FREE.

In order to ascertain how many persons read the advertisements of the Studebaker wagons, carriages and harness, if you will write us a letter of not more than 100 words, telling us how many of our advertisements you have read, where you saw them and what you think of them, we will send you absolutely free, our beautiful water color lithograph, "Typical American Show Horses," 12x27 inches, printed in seven colors.

To the six persons sending the best letters, we will send this picture handsomely framed. All others will receive the picture ready for framing. Contest closes June 1st, when pictures will be awarded. We know you will be glad to have it. Send to-day while you think of it. Address, Studebaker Bros. Mfg. Co., South Bend, Ind.

A SHOCK BINDER.

Among the new advertisements in this issue, is that of the Fontaine Shock Binder Co. This firm is offering what seems to us to be a very useful device in the shape of a Corn Shock Binder. It is a small windlass, weighing 3 pounds, and is operated by a simple pressure of the hand which will tighten the shock so it will not fall or be blown down. The shock thus tightened will turn water a great deal better than one bound by the hand only. Look up the ad and send for a descriptive circular and testimonials.

UNION LOCK POULTRY FENCING



HAS BEEN FULLY TESTED AND FOUND SUPERIOR TO ALL OTHERS.

Will fit uneven ground without cutting. Every part can be stretched perfectly. Made of high grade galvanized steel wire. All horizontal lines are cables, making it stronger. Has fine mesh at the bottom for small chicks. We also make extra heavy for gardens, lawns, etc. The largest poultry farms are using this fence—over 700 rods by Lakewood (N. J.) Farm Co. We pay freight and satisfy every one or no sale. Can ship from N. Y., Chicago, or San Francisco. Write for free catalog of Farm, Lawn and Poultry Fencing.

CASE BROS., Box 340, Colchester, Conn.

HARD STEEL

WIRE • FENCE

Heavy lateral wires, heavy hard steel stays, coiled spring wire, Sure Grip lock. In strength, appearance and durability, the Hard Steel cannot be excelled. Write for catalogue and prices.

THE HARD STEEL FENCE CO., Cuyahoga Falls, O.

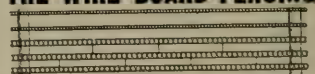


Genuine Spiral Spring Wire FENCES AND GATES

If your dealer does not have our goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency.

INTERNATIONAL FENCE AND F. CO.
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THE WIRE BOARD FENCING



Strongest, most durable and economical fencing on the market. This is a strong statement, but is based on actual experience, and absolute facts. We have the proof. Write for free sample and circular.

The Truss & Cable Fence Co., 610 Cuyahoga Bldg., Cleveland, O.



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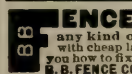
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PAGE WOVEN WIRE FENCE CO., Box 57, Adrian, Mich.



LAWN FENCE

Many designs. Cheap as wood. 23 page Catalogue free. Special Prices to Counties and Churches. Address **COILED SPRING FENCE CO., Box Q, Winchester, Ind.**



ENCE We'll tell you the cheapest and best way to build it. Of any kind of wire, for any requirement with cheap labor, no machine and we'll tell you how to fix your old fences too. Write **B. FENCE CO., 142 W. 3rd St., Peru, Ind.**



FENCE! STRONGEST MADE. Built strong. Chicken tight. Sold to the Farmer at Wholesale Price. Write for Catalogue. Address **COILED SPRING FENCE CO., Box 45, Winchester, Indiana, U. S. A.**

Mention **THE SOUTHERN PLANTER** when corresponding with advertisers.

Corn

must have a sufficient supply of

Potash

in order to develop into a crop.

No amount of Phosphoric Acid or Nitrogen can compensate for a lack of potash in fertilizers [for grain and all other crops].



We shall be glad to send free to your farmer our little book which contains valuable information about soil culture.

GERMAN KALI WORKS,
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Atlanta, Ga.—22, So. Broad St.

RELIABLE SEED

FOR THE FARM AND GARDEN.

Cow Peas, Soja Beans, Sorghums, Millets, Teosinte, Kaffir Corn, Field Corns, Buckwheat and all varieties of Field and Garden Seeds of the highest quality and germination. Fertilizers for all crops. Write us for quotations.

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Pumpkin Seed.

VIRGINIA MAMMOTH, largest and most productive variety for table and stock. Cost nothing to grow in corn field, but price of seed, and greatly benefits corn by shading the roots. Splendid keeper. Fresh selected seed. 35c. pound delivered; 5 pounds or over, at 30c. E. C. BELLWOOD, R. F. D., No. 1, Manchester, Va.

SAFONI SEED CORN

A beautiful white variety and a wonderful yielder: 2 to 4 large ears to a stalk; don't fail to try it.

HIGH GRADE RED POLL and Aberdeen-Angus Cattle, both sexes.—Address,

LOUIS B. GILLILAND, Jr., Clarksville, Va.

BERMUDA GRASS ROOTS.

50c per bu.; 10 bus. and over, 37c

P. N. LITTLE, Bold Spring, Ga.

NOVEL UNDERTAKING.

When it comes to novel and difficult feats in the engineering line, Pittsburgh easily takes the lead over any city in the country. Only a little more than a year ago the young firm of Kress-Hanlon Company successfully performed the arduous undertaking of moving one of the Standard Oil Company's great steel tanks by boats on the Allegheny river, attracting to themselves thereby the notice of engineers and of the scientific press all over the country.

The latest undertaking of this character and probably the most difficult and perilous so far attempted, will be the removal by river next week of a large two story brick building, weighing over 160 tons, from Sharpsburg, Pa., to Allegheny.

Actuated by sentimental reasons, Mr. H. J. Heinz, the founder and present head of the great Pickling and Preserving Company bearing his name, has for many years desired to bring into the midst of the company's handsome group of buildings in Allegheny, the old place built by his father fifty years ago—the building in which thirty-five years ago the business of H. J. Heinz Company was started, and there convert it into a museum for the preservation of relics and curios; but the obstacles in the way of moving it by road were insurmountable.

Mr. Heinz was unwilling to tear the building down and reconstruct it, preferring if possible, to preserve the original building intact, and various building movers were consulted as to the practicability of moving the house by river; but the difficulty of handling a brick structure safely on a swaying boat in the swift current of the Allegheny river made the risk of disaster seem too great, and nothing was done in the matter until the present spring, when the Kress-Hanlon Company, encouraged by their previous successful accomplishment, agreed to undertake the task, using the river as a highway, and about a month ago the building was lifted from its foundations and started on its journey to the river bank.

The trip down the river will be full of exciting interest, as several bridges must be passed, one of which is so low that the boats will have to be lowered several feet by scuttling, and then pumped out after the bridge is passed. Many representatives of the press will be on the tow boat as guests of the H. J. Heinz Company, when the trip is made, which if no mishap occurs, will probably require something more than half a day, including the passage of the locks just above the Heinz Plant.—Pittsburgh Press.

Daughter—Are all men bad, papa? Father—No-no, my child; you will always be safe with your grandpa and me.

LICE.

KILL THE LICE AND MITES on your fowls and chicks with GIBSON'S LIQUID LICE KILLER, and GIBSON'S INSECT POWDER. Paint the Liquid on the roosts and bottom of Coops, and dust the Powder in the nest boxes. Both guaranteed or money refunded.

Liquid Lice Killer, \$1.00 per gallon; one-half gallon, 60c. Insect Powder, 5 oz. box, 15c.; and 16 oz. box, 40c. postpaid.

Agents wanted. Liberal terms.

GIBSON & LAMB, West Alexander, Pa.

Poultry House Swarming with Lice.
GIBSON & LAMB:

Gentlemen,—The can of liquid louse killer I obtained from you did the work most effectually. The poultry house was fairly swarming with lice, as well as the fowls. I painted the roosts and dropping boards thoroughly with the liquid, and have been unable to discover a louse since. It not only kills lice, but I consider it a disinfectant and preventive of disease. They should erect a monument in "Hen Heaven" to Gibson as being the discoverer of the greatest boon to poultry in existence. EDWIN B. COLLINS, Pequot Poultry Yards, Mystic, Conn.

Oh, when you want the business done

By play that's strong and steady,

Just take a look at old SLUG SHOT.

For that's the stuff that's ready.



SOLD BY THE SEED DEALERS.

For pamphlet on Bugs and Blights, address, Benj. Hammond, Fishkill-on-Hudson, N. Y.



The Only Cow Food

Which removes Garlic, Onion and Weed Taint from Milk. Send for circular to

VA. CATTLE FOOD CO.

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Raleigh Milling Co., Raleigh, N. C.
J. M. Starr & Co., Yorkville, S. C.
T. J. Willis & Co., Charlottesville, Va.
Dr. L. S. Ricketts, Orange, Va.

MODERN CANNER FOR \$25

Complete farm canning plant, including cans, tools, etc. Write to-day. MODERN CANNER CO., Bridgeport, Alabama.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

"Golden Seal" as a money crop; its commercial value, cultivation and profits. Attractive booklet 25 cents.

J. HOAG, Jr., Tomhannock, N. Y.

Northern Virginia,

Grain, Fruit, Dairy and Blue Grass Farms of Every Class within one hour of Washington, D. C.

LOUDOUN COUNTY Farms a Specialty....

Catalogue on application.

P. B. BUELL & SON,
Real Estate Brokers,

Herndon, Fairfax Co., Va.

HOMES AND THE PLACE TO FIND THEM.

No place in the United States can be so well adapted to farming, for the money invested, as in Virginia. Lands are cheap; climate good, and the best of markets close at hand. It is the State of all others, for a comfortable all the year round home. The James River Valley Colonization and Improvement Company offer superior advantages to land purchasers. For free 36 page land pamphlet, address

W. A. PARSONS, Vinita, Va.
C & O Main St. Depot, Richmond, Va.

..To Homeseekers..

"THE BUSINESS OF FARMING IN VIRGINIA."

Is the title of a new pamphlet issued by the Norfolk and Western Railway Company. We will gladly mail you a copy.

W. B. BEVILL, PAUL SCHERER, Agr.
G. P. A., Lands and Immigration,
Roanoke, Va.

...FOR SALE...

FARMS AND SUBURBAN HOMES OF EVERY DESCRIPTION.

25, 50, 100, 500, 1,000 and 2,000 acre tracts. Some of these highly improved and convenient to schools, churches, steam and trolley lines. If you want to buy or sell a Virginia farm, see Hockaday & Casselman, Richmond, Va.

J. R. HOCKADAY, Richmond, Va.; **LAWRENCE CASSELMAN,** Ex-Auditor McLaine Co., N. Dakota.

I Can Sell Your Farm....

If located in one of these Virginia counties: Prince George, Chesterfield, King William Gloucester, New Kent, King and Queen. **Manover.** Send description, stating price.

JOHN JELINEK, 1116 Pine Alley,
Braddock, Pa.

Cultivation and Storage of Sweet Potatoes.

Instructions from start to finish thorough. Plans hold good the year round.

By mail (preferably by M. O.), 50 cents. If you register, deduct fee. **BRYAN TYSON,** Box, 218, Carthage, N. C.

THE BUSINESS FARMER.

It is generally conceded to-day that the successful farmer is the business farmer, the one who runs his farm on strictly business principles. He keeps careful account each year of what every department has cost him and what returns it has brought, and if the balance is not on the right side he immediately investigates. If the dairy department, for instance, does not pay he locates the leak. It may be that he has not been feeding his cattle to secure the greatest amount of butter fat in the cream, so he immediately proceeds to remedy this defect. Perhaps he has not secured the net profit which the size of his crops warranted him in expecting. This may be due to the fact that labor cost him too much or that his binder was old or too flimsy to do the work quickly and thoroughly. In the latter case he needs a new machine and the business farmer immediately proceeds to buy a Deering binder, because it is constructed to give satisfaction to the farmer. Deering harvesting machines make money for the farmer because they are durable and wear well, and consequently require few repairs, and because they are constructed on principles that are mechanically correct. Deering Ideal machines are known the world over for these sterling qualities, and they are an essential part of the farm equipment of every practical business farmer.

A PUMP A MINUTE.

The 500 expert mechanics employed by F. E. Myers & Bro., Ashland, Ohio, turn out one Myers Pump every minute of the working day, besides Myers Hay Carriers and other articles in like proportion. This is the largest plant in the United States, manufacturing pumps and hay tools exclusively, and during the twenty-five years that the co-partnership has existed its record has been most enviable in respect to the quality of its goods and the integrity of its business dealings. In soliciting the patronage of our readers, F. E. Myers & Bro. do so on the merits of their goods. "Take off your hat to the Myers" has become a phrase of more than ordinary purport to both the trade and the retail customer, and its association with the Myers pumps is immediate in every mind. Their newest catalogue of pumps and hay tools can be had for the asking.

HAMMOND'S SLUG SHOT.

Elsewhere in this issue, will be found the advertisement of B. Hammond, Fishkill, N. Y. For a great number of years, he has advertised Slug Shot in the SOUTHERN PLANTER as hundreds of our readers know. This well known insecticide has found favor with farmers, truckers and market-gardeners for about 25 years, and the army of users grows steadily each year. Write to Mr. Hammond for a free pamphlet on "Bugs and Blights."

Make Your Idle Money Earn You Interest.

Write the **FIRST NATIONAL BANK of RICHMOND, VIRGINIA** for information concerning its certificate of deposit, so arranged that one per cent. may be collected every **FOUR MONTHS** through your nearest bank or store.

Our experience proves this form for savings to be the most satisfactory plan yet devised for deposits of \$100.00 or more.

Our Cap ital and Surplus is
ONE MILLION DOLLARS.

VIRGINIUS NEWTON, President.

JNO. M. MILLER, Jr., Vice-Pres. & Cashier.

CHAS. R. BURNETT, Assistant Cashier.

J. C. JOPLIN, Assistant Cashier.

"In the Green Fields of Virginia."

Homes for ALL, Health for ALL, Happiness and Independence for ALL. ALL sizes of FARMS at corresponding prices, but ALL reasonable.

MACON & CO., Orange, Va.

••• VIRGINIA FARMS •••

Nice little poultry farm, 100 acres, good house and orchard, \$500.00. **Blue Grass, Stock and Fruit Farms.** Address **PORTER & GATES,** Louisville, Va.

Go South.

For full particulars write
A. JEFFERS,
Norfolk, Va.

FINE FARMS in the great fruit grain and stock section of VIRGINIA. Best climate and water in the U. S. Near great markets, with best educational advantages. For further information, address

ALBEMARLE IMMIGRATION CO.,
SAM'L B. WOODS, Pres. Charlottesville, Va.

VIRGINIA FARMS

All prices and sizes. Free list on application.

WM. B. PIZZINI CO., Richmond, Va.

VIRGINIA FARMS

\$3 PER ACRE AND UPWARDS.
EASY PAYMENTS. CATALOGUE FREE.
GEO. E. CRAWFORD & CO., Richmond, Va.

Established 1876.

BACK NUMBERS

WANTED. We will pay 10 cents a copy for all of last year's numbers. We have several subscribers who want various issues, and others who want the entire volume. Drop us a postal stating what numbers you are willing to dispose of. Will pay cash or credit your subscription.

SOUTHERN PLANTER, Richmond, Va.

GREAT BARGAINS IN VIRGINIA FARMS.

Below I give a few of the many choice offerings I have of Virginia Real Estate; fuller particulars, if desired.

No. 5.

Contains 163 acres; one-half under cultivation; balance in second-growth timber. Good seven-room dwelling and necessary outbuildings; good orchard in fine fruit section. Farm lies near Southern railroad, twenty miles from Washington; well watered; a splendid dairy farm. Price, \$2,000.

No. 16.

120 acres—20 acres hardwood, balance in good state of improvement, and a splendid quality of red clay subsoil; 50 acres in wheat and timothy; 20 acres in meadow, balance is new land, and will be for corn next spring. Situated in excellent neighborhood of refined people. Twenty-two miles from Washington, 5 miles from Herndon Station. Fronts on pike. Comfortable 4-room house and all barns. Farm watered by large branches. Price, \$20.00 per acre. Terms to suit purchaser.

No. 17.

80 acres—15 acres in hardwood, balance in grass, except 20 acres for corn. Fronts on pike; 5 miles from railroad station. Watered by large branch. All in good state of cultivation. No buildings. Price \$18.00 per acre. Easy terms.

No. 22.

225 acres in Loudoun county, 2 1-2 miles from railroad station, 40 acres in oak and hickory timber, soil mahogany clay, stiff clay subsoil, fine grain and grass land, all level and well drained. One to two miles from three churches and post-office. Running water in every field. Land in good state of production, free from stones. A good seven-room dwelling, dry cellar, shady lawn, a large barn, complete with stalls, grain room and driveway. Water in barn yard, double corn crib, meat and poultry house, all in good repair. Deep well at kitchen door. Situated in refined neighborhood. Price, \$20 per acre.

No. 23.

50 acres in Fairfax county, 2 miles from town, 10 acres in timber, 3 acres in apples, peaches, pears and cherries. Situated 13 miles from Washington, high state of cultivation. Operated now as a plant and market garden. Improvements, a nice two-story seven-room dwelling, barn 40x50, work shop, hog, poultry and meat houses, all in

excellent repair. Situated on macadam road. Price, \$2,650.

No. 25.

175 acres in Rockbridge county, 1 1-2 miles from Buena Vista, Va. 120 acres in blue grass, 10 acres in wheat, 15 acres for corn, balance in timber. Soil lime stone clay, high state of improvement. Land gently rolling and well fenced. New 10-room dwelling, two large porches, good 5-room tenant house and other small outbuildings, barn was burned, stone foundation 37x50 in good repair. Good spring in every field. Price \$5,300.

No. 28.

516 acres in Rockbridge county, 11-2 miles from town, near railroad; 300 acres of cleared land, 70 acres in wheat, 26 acres in white oak and hickory timber, 230 acres in blue grass and timothy sod, 190 acres of mineral land, 1 mile from railroad, cleared land in high state of cultivation, excellent fences. Improvements—new 10-room brick dwelling with three cellars, hot and cold water in house, telephone connections with county and long distance phones, barn 44x60, stable 30x45, sheep barn 24x15, double corn crib and granary 25x30, machine, carriage, ice and poultry houses, two 5 room tenant houses. Price, \$16,000; one-third cash and balance on 10 year time if desired.

No. 31.

2 acre lot, situated at intersection of three public highways, in a prosperous and thickly settled neighborhood. Improvements—a 2-story 6-room dwelling, a large store house, 5 rooms over the store, a feed stable 18x40, 20 feet high, blacksmith shop, wheelwright shop, and 4-room tenant house, all occupied and in excellent repair. Price, \$1,500. Fine business stand.

No. 34.

50 acres—Truck and fruit farm in Virginia, near steam and electric railroad, 12 miles from Washington, 10 acres in timber. This farm is almost covered with fruit trees, nancy, peaches, pears, plums, cherries, apples, crab apples and berries. Land is smooth and gently rolling, watered by several springs. Improvements—5 room frame dwelling, barn 30x35, corn crib, granary, wagon and wood shed, hog, poultry and meat houses, all in

good repair. In excellent neighborhood. Price, \$5,000.

No. 30.

50 acres in Loudoun county, 3 1-2 miles from railroad. Land chocolate clay; 5 acres in timber, 3 acres in apple orchard 10 years old. Land in good condition. Improvements—a new 6-room dwelling not quite finished, a large stable, and other small farm buildings in fair condition. Price, \$1,600.

No. 33.

400 acres in Loudoun county, convenient to railroad, level road, 40 acres in timber, balance cleared, divided into eight fields, running water in all, good fence. Land well set in timothy and clover. Soil mahogany clay and some yellow loam, fine grain and grass land. Situated in pleasant neighborhood, 24 miles from Washington. Improvements—7-room dwelling, 1 1-2 story, new sheep barn and new cow barn, large stable for 9 horses, machine sheds, granary, corn crib, poultry house, fine spring house with large spring at edge of lawn. This farm is smooth and level. There are about 300 sheep and lambs on this farm. If farm is sold by May 20th, 1904, the farm and sheep and one-half of the lambs can be bought for \$8,500 on easy terms.

No. 35.

400 acres in Loudoun county, 26 miles from Washington, 60 acres in timber, balance cleared, smooth and just a little rolling, divided into seven fields, excellent fences, running water in all, 50 acres in wheat, 230 acres of orchard grass, blue grass, timothy and clover. Any of this land will grow from 40 to 50 bushels of corn to the acre without fertilizer. Improvements—handsome 8-room dwelling with closets, pantry and cellar, two long porches, new barn 30x100 feet, stalls for 12 horses and 50 big cattle, 4-room tenant house, granary and all other necessary small farm houses in excellent repair, large store house near dwelling, post-office in store, telephone in house. There are 30 three year old cattle on this farm. If farm is sold by the 20th of May, 1904, the farm and 30 cattle can be bought for \$9,000; one-third cash, balance to suit the purchaser.

I have a number of other good farms for sale, both large and small. Write me description of what you want, and I shall be more than pleased to serve you.

W. E. MILLER, Herndon, Va.



All Sheep

are a prey to scab, lice, ticks, etc. You should act promptly with the sovereign remedy. Don't experiment; others have done it for you. The result is they all endorse

Zenoleum

Used exclusively by Government Experiment Stations, Agricultural Colleges and leading sheep men everywhere. Relieves from ticks, red lice, and maggots, removes intestinal worms, heals wounds and sores, and prevents contagion among all animals.

"The Great Coal Tar Carbolic Disinfectant Dip."

Mixed with water only, requires no chemicals. One gallon makes 100 gallons of dip.

Sample can, express prepaid, \$1.50. Five gallons, freight prepaid, \$6.00. Send for booklet, "Veterinary Adviser" and "Figgie's Troubles." Both free.

Zenner Disinfectant Co.
93 Bates St.
Detroit, Michigan.



COOPER SHEEP DIP

Standard of the World

for 60 years. Used on 250 millions annually. One dipping kills Ticks, Lice and Nits. No smell. Keeps flock clean a long time. Increases growth of wool.

Dipping Tanks at cost.

Send for Pamphlet to Chicago.

If local druggists cannot supply, send \$1.75 for \$2.00 100 gal. pkt. to **JOHNSON & STOKES**, Philadelphia, Pa. **G. A. KELLY & CO.**, Pittsburg, Pa. **W. M. COOPER & NEPHEWS**, Chicago, Ill.

SECRET

BENEVOLENT SOCIETY FOR FARMERS AND THEIR WIVES. Pays \$10 weekly sick \$20 weekly accident and \$2,000 death benefit, and \$50 old age pension. Organizers wanted, good pay. **KNIGHTS OF AGRICULTURE** Washington, D. C.

THE ADVANTAGES OF A WATER TELEGRAPH.

MARY WASHINGTON.

Nothing is more essential to the comfort and well-being of a household than an abundant supply of water, fresh, pure water, but it is often quite a serious problem to country people how they are to get this. Most persons living in the country build (or inherit from their ancestors) their dwelling house on a hill, partly for the sake of health, and partly for the sake of the view, and as springs have a perverse way of having a low location, it is often a perplexing matter to us how we are to get an unstinted supply of water for drinking, cooking and bathing purposes. In slavery times, we had relays of little negroes, whose chief duty in life was to "tote" fresh water from the spring, and this they did, at short intervals throughout the day, so we were not subjected to any stint or inconvenience about our water supply, no matter how far off the spring might be. The little negroes who used to be such good water carriers are now turned into poor scholars, staggering under the weight of their school books, or else they are scattered far and wide by the migrations of their parents, or even if at hand, they are no longer available to us.

In view of the changed condition of things, we are compelled to call in the aid of machinery of some kind to make good the shortage in our water supply. There are several expedients to which we may resort. In the first place, we may dig a well, but in some localities, this is very difficult and expensive, owing to the nature of the soil and in some cases it is almost impossible to strike water. Again, if a person is in easy circumstances, not hampered by a mortgage or any pressing debt, it is an excellent plan to have a wind mill, if we have a favorable location for one. A wind mill is undoubtedly a great boon to a household, and it is also of the greatest utility about the flower garden, vegetable garden, lawn and stables, if you have pipes laid to convey the water to these different points. I have seen it tried with signal success; the vegetables thrive, the flowers flourished luxuriantly, the grass kept green throughout the heat and drought of summer, and moreover, the family could indulge in unlimited bathing by means of the water conveyed into their dwelling whenever the wind blew, enabling them vividly to appreciate the force of the proverb that "it is an ill wind that blows no good."

But the drawback about a wind mill is that it is not within the compass of every one's means, especially when you add the adjunct of piping, and therefore I have an alternative to propose; a water telegraph. This is really the most feasible and practicable scheme I have seen proposed. It is so simple and inexpensive that it is eas-

No good grocer sells a lamp-chimney without MACBETH on it

You need to know how to manage your lamps to have comfort with them at small cost. Better read my Index; I send it free.

MACBETH, Pittsburgh.

Kills 'em Quick



Magic Death Powder

NOT A POISON, but a remarkable discovery which is very effective in causing stupefaction and death to all kinds of insects infesting Poultry, Animals, Plants and Houses. Put up in a box ingeniously arranged for conveniently dusting or blowing the powder where wanted.

Send 25c. to **MAGIC FOOD CO.**, Chattanooga, Tenn., and get a book by mail. A beautiful picture in colors suitable for framing given FREE with each order during the next 30 days. Rid your Chickens of Lice, Pet Animals of Fleas, etc. Your House of Bed Bugs, Flies and Mosquitoes, by the use of **MAGIC DEATH POWDER**.

200,000

Cabbage Plants.

ALL HEAD, SUCCESSION, and CHARLESTON, nice stalky out door grown, 25c. per 100; \$1.50 per 1,000. Now is the time to plant my fine collection of mixed Dahlias, 75c. per 12; \$5.00 per 100; \$40 per M. Yellow Cannas, 50c. per 12; \$4.00 per 100, all by express. By mail, 4 of my best varieties of Hardy Chrysanthemums 50c. per 12. Strawberry plants. Mark T. Thompson, Elio Vista Va.

WANTED!

ALL KINDS OF

LIVE WILD BIRDS AND ANIMALS

Particularly Deer, Wild Turkeys, White Squirrels, Ducks, Swans, Bob White Quail, Grey Squirrels, Bear, Etc.

CECIL FRENCH,

718 Twelfth St. N.W., Washington, D. C.

Spavin

Bone Spavin, Bog Spavin, Ringbone or any kind of blemish—we have what you need to make a certain cure. Guaranteed always—money right back if it ever fails.

Fleming's Spavin Cure (Liquid)

for the soft bunches—Paste for the hard ones. A 45-minute application and the lameness goes. Lots of blemish information in the free book we send.

Fistula and Poll Evil

Do yourself what horse doctors charge big prices for trying to do. Cure Fistula or Poll Evil in fifteen to thirty days.

Fleming's Fistula & Poll Evil Cure is a wonder—guaranteed to cure any case—money back if it fails. No cutting, no scar. Leaves the horse sound and smooth. Write for our free book on diseases and blemishes of horses.

FLEMING BROS., Chemists,
280 Union Stock Yards, Chicago, Ill.

IT'S GOOD

For every horse, cow, hog or sheep, and it is the only remedy which they take voluntarily and relish.

Blackman's Medicated Salt Brick

is the best stock remedy made (being the formula of a celebrated veterinarian) and being so pleasant to take, on account of the salt taste, does away with all trouble of dosing, drenching and mixing with feed. It is unequaled as a blood purifier, aider of digestion and general system regulator. 1,000,000 endorse it.

Special Offer—We will send four brick, prepaid to any address upon receipt of \$1.00, which will be cheerfully refunded if you are not in every way pleased.

Sold by dealers. **BLACKMAN STOCK REMEDY CO.**, 927 Highland Park, Chattanooga, Tenn.

USE FOUTZ'S HORSE AND CATTLE POWDER

DAVID E. FOUTZ
BALTIMORE, MD.

A medicine which makes sick animals well, the diseased whole, the weak strong and the thin fat. It will restore lost Appetite, expel Worms and cure Chronic Cough, Hoarse, Influenza, Distemper, Hidesound, Indigestion, Constipation, Flatulency and all Stomach and Bowel trouble.

The finest of all animal vitalizers and tonics and the only one which increases the coefficient of digestibility of protein.

Get the Genuine or it is not Foutz's. No. 1 Price. 25¢ per lb. 5¢ per lb. 1/2 lb. 25¢ per lb. 1/4 lb. 12¢ per lb. Sold by All Dealers

NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary specific for wind, throat and stomach troubles. Strong recommendations. \$1.00 per gal. Dealers, Muller & Co. paid. The Newton Remedial Co., Toledo, Ohio.

ily within the reach of persons of moderate, or even small means. Ten dollars will cover every expense connected with putting up one, nor is its cheapness its chief, or only desideratum. It is extremely useful and efficacious, and its working is so easy and simple that a child of ten years old can readily draw water by means of it. It is an inestimable treasure to a person whose house is perched on a high hill, with the spring at the foot of it; especially in winter when the hill is frequently cased in ice, snow or sleet, or else miry from long rainy spells. You build a little lodge on the brow of the hill exactly opposite to the spring, so as to have a place to put the windlass and other fixtures needed for the water telegraph, and to enable persons to draw water under shelter when it is raining or snowing. Of course, you have an opening on the side through which the bucket has to pass. Then you have a row of posts about 12 feet high and 20 yards apart, extending between the little lodge and the spring. An iron bracket hook is inserted in the right side of each of these posts, and over these is tightly stretched the wire cable over which the bucket passes. The bracket hook is placed lower in each successive post so, as to gradually bring the wire low enough as it approaches the spring for the bucket to dip in the water. Finally the wire after crossing the spring finds its terminus in the ground a little farther on. The bucket is lowered and drawn up by means of a rope. It should be of block tin, holding from two to three gallons. About once a month, it is well to apply machine oil to the machinery of the water telegraph to keep it from creaking and working stiffly. Your correspondent has been using one of these water telegraphs for three years, so she is in a position to judge of their merits and great utility. I believe it would be impossible to get any other contrivance at once so simple and inexpensive, and yet so efficacious and useful. They are not new fangled inventions. I have a distinct recollection of seeing one of them in use in my early childhood, before the war.

The commencement exercises of Littleton Female College, Littleton, N. C., will begin on Sunday, May the 22d, with a sermon before the faculty and students of the College, by Rev. G. F. Smith, Presiding Elder of the Warren District. On Wednesday, the 25th, Dr. C. W. Byrd, of Atlanta, will preach the annual sermon in the College chapel. The commencement address will be delivered on Thursday the 26th, by Rev. R. D. Smart, D. D., of Norfolk, Va. In place of the usual annual address on missions before the Y. M. C. A., there will be, this year, a series of three addresses on missions. These will be delivered by Bishop A. W. Wilson, of Baltimore, Md., on the evenings of April 12th, 13th and 14th.

Warranted to give satisfaction.



GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

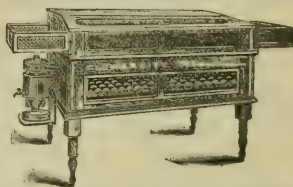
Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for Rheumatism, Sprains, Sore Throat, etc. it is invaluable.

Every bottle of **Caustic Balsam** sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

INCUBATORS - ON - 30 - DAYS - TRIAL



A certain and never failing Business Hatcher. Reasonable in price; best in quality, and always reliable. Thousands of these machines are in successful operation here at home and abroad.

Our handsome catalogue is free for the asking, and for a copy at once, before you select a machine and make a mistake. Address The Standard F. C. Incubator Co., Dept. 23, Rochester, N. Y. Mention this Journal.

"Crop Growing and Crop Feeding."

By PROF. W. F. MASSEY.
333 Pp. Cloth, \$1.00; Paper, 50c.

We offer this splendid work in connection with the SOUTHERN PLANTER at the following prices:

Southern Planter and Cloth Bound Volume, \$1.25.
Southern Planter and Paper Bound Volume, 90c.
Old or new subscriptions.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Get the shaving habit and use Williams' Shaving Soap. It pays.

Sold everywhere. Free trial sample for 2-cent stamp to pay postage. Write for booklet "How to Shave."

The J. B. Williams Co., Glastonbury, Ct.



SILVER-LACED WYANDOTTES.

Eggs For Hatching. \$1.00 per 15 from strong and healthy birds of leading strains. A few choice pullets at \$1 each. Pure-bred Poland China Pigs at \$5.00 each.

Dr. H. H. LEE,
R. F. D. 2, Lexington, Va.

WALSH'S Barred Plymouth Rocks

High class combination utility and exhibition stock. Best blood. Bred from prolific layers of large brown eggs. Eggs, \$1.50 per 15.

L. W. WALSH,
Lynchburg, Va.

Box 194.

CHOICE



FOR
HATCHING.

Of 48 Varieties Best Poultry. Fine, large illustrated descriptive Poultry Book postpaid, only 6c. Price list FREE. Write now. JOHN E. HEATWOLE, Prop. Valley Poultry Farms, Harrisburg, Va.

Partridge Cochins,

BLACK BREASTED RED GAMES, S. C. RHODE ISLAND REDS, S. C. WHITE LEGHORN.

Eggs, \$1.25 per 15; \$2.00 per 30. If we do not have what you want, write us and we will tell you where to get it. RIVERSIDE POULTRY FARM, J. B. COFFMAN & SONS, Dayton, Va.

Barred Plymouth Rocks

PRIZE WINNERS, THOROUGHbred. The matchless P. F. V. strain. Bred by Bradley Bros., Thompson and others. Plymouth Rocks, are recognized as the best general purpose fowl. Improve your stock by new blood. Fancy stock for show room. Large, vigorous birds for farm. Eggs, \$1.50 to \$2 for 15. Circular free. VIRGINIA HILL POULTRY FARM, Bristol, Va.-Tenn.

BARRED PLYMOUTH ROCK EGGS.

for HATCHING, carefully packed for \$1 per setting of 15. Reduction on large orders. M. B. ROWE & CO., Fredericksburg, Va.

JOE CHAMBERLAIN'S PLAN.

England seems to listen with rapt attention to Mr. Chamberlain's arguments in favor of a protective tariff which will mean, among other things, discrimination against American food stuffs in favor of those of the British colonies. Should Mr. Chamberlain ultimately win out, as it seems probable that he will, American food stuffs must find another market; so we have been turning our eyes toward Asia. The possibilities of our Asiatic trade are stupendous, and it seems only reasonable to presume that the Orient will gladly receive all the American farmer can produce. Wheat and flour have been shipped from Minneapolis to Hong Kong for approximately \$3 per ton, the cheapest rate known in the history of transportation. Cheap rates coupled with the determined Asiatic policy of our government, which insures a free field and equal opportunities to all, will stimulate the American farmer to increase the productive capacity of his land. No single circumstance affects this condition as much as improved labor saving farm machinery. Save time, save labor, save products by using the Milwaukee machines. Constructed to endure and give satisfaction, Milwaukee machines will be found to meet every requirement of the farmer, and enable him to supply the increasing demand for American products.

FARMING IN THEODOSIA.

A competent authority in Theodosia writes to a prominent English agricultural journal regarding the condition of agriculture and the sale of agricultural implements as follows:

"American makers of harvesting machines are fast monopolizing this branch; their machines, being much lighter than British makes, are more suitable to the country and the small breed of horses. Most American farms have their own depots in Russia and their own people to manage them; these central depots appoint agents in different towns, and they also have travellers and specialists travelling to find out in what way their machines require altering to suit the country. If British makers wish to compete and get a firm hold of this market, they must adopt some of the ways of their rivals, otherwise I am afraid British machines in a few years will be completely ousted from this country."

The above opinion illustrates the thoroughness with which the American manufacturer carries out an undertaking, sparing no expense to produce a perfect product. The farmer in Theodosia, where Plano harvesting machines at work in the field are a common sight, like the farmer in this country points to his Plano binder as an example of American ingenuity and progressiveness, which the authority says above, is rapidly ousting English machines in Russia.

White Leghorns.



Eggs \$2.00 per 15; \$5.00 per 60; \$7.50 per 100. Circular shows winnings.

C. G. M. Fink, R. F. D. 2,
Richmond, Va.

WINTER LAYERS

for Southern farmers. Ten years' experience with fowls has taught me that WYANDOTTES and BUFF ORPINGTONS excel in winter laying. Blue grass S. C. ORPINGTONS (from imported stock). Eggs, \$1.50 per 15. First class BUFF and WHITE WYANDOTTES. Eggs, \$1.00 per 15. M. B. TURKEYS IN FALL. HUGENOT POULTRY YARDS, Dublin, Va.

BUFF ORPINGTON EGGS. POLAND-CHINA PIGS.

Book your orders early for eggs from our solid Buff Orpingtons. Orders can only be filled in turn. Sold out on cockerles long ago, and no stock till fall. Eggs, \$1.50 per 15. Orpingtons only. Poland China pigs, \$7 for pair; \$3.75 for one.

OCONEECHEE FARM,
Mecklenburg Co. JEFFR. VA. ES5

PEKIN DUCK, S. C. B. LEGHORN,
and B. P. ROCK Eggs \$1.00 per 20.

Scotch Collie Pups,

Pedigreed, \$5.00 each.

C. H. BENNETT, Goodman, Va.

PIT GAMES

Black Devils and Red Cubans.

These cocks won 90 per cent. of battles fought in 1902 and 1903, and have never lost a battle when gameness and cutting qualities could win. Eggs \$2 per 15; stock for sale.

THOS. W. JARMAN, Yancey Mills, Va.

For Pure-bred WHITE LEGHORN

Eggs at 75c. per sitting and Cockerels at \$1 each. Address MRS. W. F. ALLEN, Walnut Hill, Va.

Fresh Laid Eggs

of Mammoth Bronze Turkeys, Barred Plymouth Rock, White Wyandotte and S. C. B. Leghorn Chickens. Safe delivery insured. Prices reasonable. MISS CLARA L. SMITH, Croxton, Caroline Co., Va.

LEGHORN POULTRY FARM



Has for sale a limited number of S. C. BROWN and S. C. WHITE LEGHORN Pullets and Roosters. Best layers known. Prize Winning Stock. Price, \$1.00, \$1.50 each. Eggs in season at \$1.00 for 16; \$2.50 for 30; \$4.00 per 100. Satisfaction guaranteed.

Address A. T. MATTHEWS, Box 36, Parkesley, Va.

EGGS from Fine Fowls.

Barred, Buff and White Plymouth Rocks; Silver, White, Buff and Partridge Wyandottes; Black Minorcas; Black Langshans; Light Brahmas; Buff and Partridge Cochins; White and Brown Leghorns.

♦♦♦♦ 15 FOR \$1.00 ♦♦♦♦

except the Wyandottes which are \$2.00 for 15

Net stock except a few B. P. Rocks and Light Brahmas. C. J. WARNER, Mgr., Ruffin, N. C.

OAKLAND POULTRY FARM.

Farm-Raised Poultry.

Two distinct flocks of Mammoth Bronze Turkeys from which we make matings for breeding purposes at reasonable prices. Eggs in season.

BARRED PLYMOUTH ROCKS,
WHITE PLYMOUTH ROCKS.

BIRDS AND EGGS.

PROGRESS FARM, Box 52, Normandy, Tenn

EGGS for HATCHING.

75c. Per Sitting of 15.

Light Brahmas, Black Minorcas, S. L. Wyandottes, Barred and W. Rocks, Brown Leghorns S. and R. C; White Leghorns S. C.

A few more Leghorn and Minorca Cockerels left. J. B. JOHNSON, Manassas, Va. CLOVER HILL FARM.

Racket Farms, Parkesley, Va.
A. S. JOHNSON, Mgr.

Toulouse Geese, Pekin Ducks,

OF LARGEST STRAINS.

RHODE ISLAND REDS, WYANDOTTES, BROWN LEGHORNS. Can furnish Leghorns birds of best quality by the hundred. Geese eggs, 4 for \$1; all others, \$1 per sitting, or \$5 per 100.

Rhode Island Reds and water fowl a specialty. Belgian Hares cheap. Satisfaction guaranteed.

INTERNATIONAL STOCK FOOD BOOMING.

Under date of April 6th, the International Stock Food Co. writes us as follows: "We have just closed the largest month in the history of our business. The year 1904 promises to be a record breaker for 'International Stock Food' as our trade is rapidly increasing from month to month. Owing to the great increase in our business, we have been compelled to put 39 additional typewriters in our office since January 1st, making a total of 106. Our office force now numbers over 200 people."

This is certainly a record of which any concern would be justly proud. There is not one concern in a thousand which uses 39 typewriters all together much less an office force of 200 people. There must be some very good reason for this very great evidence of the prosperity of the International Stock Food Co. We take it that it has a very meritorious article and that the farmers are finding it out by the thousands.

An interesting ad of this company appears on another page. Refer to it, answer the questions and send for a valuable book.

A prize of \$5 is offered the readers of the SOUTHERN PLANTER who have been mail order buyers during the past year. A large number of letters have been sent out by the Long-Critchfield Corporation, the special Agricultural Advertising Agency, to persons whose names appear in catalogues with testimonials, asking them what induced them to buy.

Was it the advertisements?

Was it the catalogues?

Did they make you a special offer?

Was it the first or second or subsequent letter you received from the firm after receiving a catalogue?

What is your opinion of follow-up letters? Do they interest you, or do you feel that you do not want to be urged to buy an article?

Would you prefer to make up your mind without such urging?

For the best answer, a prize of \$5 is to be given. While the Long-Critchfield Corporation can write only to a limited number of mail order buyers, a letter from that firm states that this announcement may be regarded as a letter to subscribers of the SOUTHERN PLANTER, and that they are eligible to compete for the prize. The only condition is that the letters be sent before May 10th. They should be addressed Long-Critchfield Corporation, Powers Building, Chicago.

A lady, having sent an order for a joint of mutton to the butcher who usually supplied the wants of her household, received the following note in reply: "Dear Mem,—I am sorry I have not killed myself this week, but you can have a leg off my brother.—Your affectionate Butcher."

...FEEDING OUR...

BABY CHICK FOOD

PRODUCES

HEALTHY CHICKS.

SAMPLE FOR THE ASKING.

INCUBATORS, :- :-

BROODERS AND

POULTRY SUPPLIES,
ALWAYS IN STOCK.

BIRDS, PET STOCK, GOLD FISH

EVERYTHING FOR THE FANCIER.

CATALOGUE FREE.

Having made a change in management we are better than ever, prepared to make prompt shipment.

FANCIERS' SUPPLY CO.,

517-519 West Broad St.,

Richmond, Va.

Edgewood Stock Farm.

WHITE WYANDOTTES.

This month your last chance to get cockerels. Special price for three. Chickens have run of large farm, so cockerels are sure breeders. Eggs for sale at \$1 dozen. H. B. ARBUCKLE, Maxwelton, W. Va.

NOW IS THE TIME,



to set eggs. My eggs are produced from some of the best stock in the country, and will give satisfaction. Prices reasonable. G. F. POINDEXTER, Breeder of WHITE WYANDOTTES and PEKIN DUCKS, BROOK MOUND FARM, Greenlee, Rockbridge Co., Va.

EGGS

From my S. C. Black Minorcas and S. C. White Leghorns of the very best strain.

These breeds are raised on separate farms, and have free range. Eggs, 75c. per 15; \$1.50 per 35; \$4.00 per 100. I guarantee two-thirds hatch, or replace at half price.

J. MILTON GARNETT, Prop.,
Mitchell's, Va.

BROWN LEGHORNS.

Eggs for hatching from splendid layers, \$1.00 per sitting. Pens mated for best results.

R. W. HAW, Jr., Centralia, Va.

Edgemont Poultry Yards,
Liberty Mills, Va.

WHITE WYANDOTTES
and BUFF P. ROCKS.

Stock and Eggs for sale. Choice lot of Cockerels from \$1 up; eggs, \$1 for 16, or \$5 per 100. JOHN A. REEDY, Prop.

Mention THE SOUTHERN PLANTER when corresponding with advertisers.

PURE-BRED Barred Plymouth Rock Eggs.
from beautiful, well bred birds, at \$1.00 per 15.
F. Maxwell Conner, P. O. Box 316, Richmond, Va.

Pure-bred Eggs

for Hatching. **BARRED PLYMOUTH ROCKS, S. C. BROWN and S. C. WHITE LEGHORNS, BLACK LANGSHANS, \$1 for 15; \$5 for 100, 400 hens. PARK POULTRY YARDS, Harrisonburg, Va.**

BARRED PLYMOUTH ROCK

Eggs, 15 for 85c.; 30 for \$1.50; Buff Cochins, 15 for \$1. Few pairs low. **PEKIN DUCK EGGS 12 for \$1.** One trio cheap. Incubators low. **Rev. J. W. HECKMAN, Cascade, Va.**

Silver Laced Wyandottes.

No finer general purpose fowl in America. Bred for beauty and utility. Eggs from choice and pure bred stock \$1.25 per 12; \$2.00 per 30. Twenty-three years a breeder and shipper.
S. P. YOUNG, Denbigh, Va.

White Minorcas.

Large well shaped birds. Prize winners and the best of Layers. Eggs supplied from the best of matings. Shipped safely anywhere. Catalog free. **F. S. BULLINGTON, Box P, Richmond, Va.**

BEST STRAIN

BARRED PLYMOUTH ROCKS.

The ideal farmer's fowl. Eggs, 50c per setting of 15 F. O. B. here. **Mrs. WM. P. BURKS, R. F. D. 1. Bedford City, Va.**

FOR SALE

B. P. ROCK eggs \$2.00 per 15. No better blooded stock. My highest aim is to treat my customers right and retain their patronage.

CHARLIE BROWN, R. F. D. 1. Cartersville, Va.

EGGS FOR HATCHING

From finest strains in America. **White Wyandottes, Barred Plymouth Rocks, \$1.00 per 15. PENN LAIRD POULTRY CO., - Penn Laird, Va.**

COLLIE PUPS

By Imported Sires. Sable and white and tri colors. Prices \$3 to \$15. Older ones correspondingly low. Book on Training, 50 cents. Free if you buy a Collie. **MAPLEMONT STOCK FARM, Albany, Vermont**

ANGORA GOATS are handsome, hardy and profitable. For large circular address **E. W. COLE & CO., Big Clifty, Ky.**

ANGORA GOATS

For Sale.

I can furnish bucks and does of these **LAND CLEANING** animals at moderate prices.

Julian T. Ruffin, Old Church, Va.

Piedmont Poultry Place,

"Handles nothing but the best."

We now offer Pure-bred **POLAND-CHINA** Pigs for sale. We will not sell under 8 weeks old. Single pig \$2. per pair \$10. per trio, \$14. Some ready for shipment May 15th. First orders get best pigs.

Miss E. Cattie Giles, Prop., Whittles Depot, Va.

Mention the **SOUTHERN PLANTER** in writing.

WASHINGTON NOTES.

A timely farmers' bulletin of the Department of Agriculture—No. 193—contains notes on selection of seed corn, citing experiments from State experiment stations widely distributed. Although corn culture in the United States is practically as old as American agriculture itself, it is of comparatively recent date that any scientific systems of corn judging have been devised, and it is stated that the general employment of such methods will add enormously to our annual corn yield. The average corn yield is only about twenty-seven bushels per acre. Next to the better cultivation of the soil the proper selection and production of seed corn is perhaps the strongest factor in increasing the yield.

Corn is readily affected by changes of soil and climate, and in obtaining a variety perhaps from a very different latitude its excellence is likely to be impaired until the variety, after two or three years of growth under the new environments has become acclimated.

Instances: The North Carolina Board of Agriculture obtained from the Illinois station seed of Leaming corn, one of the best varieties in Illinois, but under North Carolina conditions this corn ranked last in a test of thirteen varieties. It was the unfortunate thirteenth.

The Arkansas station made extensive tests of this character and concludes that "the results of the two years experimentation indicated that seed corn grown in the same or nearly the same latitude as that in which it is to be planted will give the best results."

The North Dakota station says that the best seed corn is usually a variety which has grown and ripened seed for the longest period of years in that locality providing it has been kept pure and true to type.

As an improvement on simple field selection the Illinois station among others recommends a special breeding field or plat, which should be surrounded by a number of rows of the same corn to prevent the plat corn becoming pollinated from outside sources. An interesting detailed description is given by the Department of Agriculture of the method of carrying out this special seed plat scheme with a view to getting only the very finest seed corn, something well worth reading by every farmer who plants corn.

The Illinois station has made a special effort and with some success of securing corn with high percentages of protein, through selection.

Seed corn should germinate at least ninety-five per cent. The vitality of corn is frequently greatly injured by improper storage. Blotting or other absorbent paper, a cigar box with a cover to keep in moisture and fifty

Filston Farm

Products Are Good.

English Berkshires

The breeding of Berkshires is one of the most important departments of the farm, and one of the most successful. Imported six firsts in England, and Esau II., half brother of great champion Manor Hercules. Also Loyal Berks II. and Loyal Berks III., from last litter by great imported champion Loyal Berks, dam Her Majesty. The Filston herd contains thirty strains of the most celebrated Berkshire blood in England. Some well-grown fall pigs still in the herd. Orders for spring pigs now being booked.

Filston Collie Kennels

Stud dogs, Lord Tweedmouth, by Ch. Ormskirk Emerald, ex Ch. Barwell Mystery; Filston's Galopin, by Ch. Ormskirk Galopin, ex Newburgh Gem, and others. Records prove conclusively the superiority of these strains for producing prize winners. Circular with pedigrees and winnings on application. On hand, females bred to our best sires, and young pups.

Filston Poultry

Eggs of the following varieties can be obtained: Buff and White Wyandottes, Barred and White Plymouth Rocks, Light and Dark Brahmas, White and Brown Leghorns, Mammoth Bronze and Holland White Turkeys, Toulouse Geese and Pekin Ducks. Send for price list.

GEO. A. SWARTWOUT, Manager, Glencoe, Maryland.

KENTUCKY JACK FARM



A fine lot of KENTUCKY bred and big BLACK SPANISH Jacks and Jennets; also 1 and 2 year old Jacks; young stock for sale at all times. Write or see me before you buy. Come to Kentucky if you want a good Jack. **JOE E. WRIGHT, Junction City, Ky.**

SPECIAL BARGAIN SALE OF JACKS.



For the next 60 days, I will sell some fine Jacks at **ONE-HALF** their value, in order to make room for the coming importation. I will also pay the R. R. fare of buyers during this time. Come at once for a bargain. **BAKER'S JACK FARM, Lawrence, Ind.**

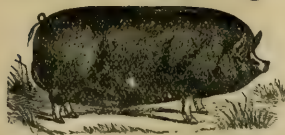
Jacks, Jennets and Stallions

FOR SALE. FINE JACKS A SPECIALTY. Write or visit state exactly what you want or come and see our stock.

W. E. KNIGHT & CO., Route 5, Nashville, Tenn.



Berkshire Hogs!



Sires in service, **Rockland Majestic of New Era**; his sire **Rockland Gentry**, champion of America in 1903; grand sire, **Baron Lee IV, Model Lee IX, sire Gov. Lee**, champion of America in 1889, Sows of **EQUALLY NOTED** Strains. A few nice pigs for sale. Write for prices.

JNO. CALHOUN, Cllo, S. C.

kernels of corn with a few ounces of water is all the test apparatus necessary. Five days' time will determine the matter.

The Bureau of Animal industry is preparing an instructive exhibit for the St. Louis Exposition of the renovated butter industry. Firkins, tubs and pound packages of renovated butter are being prepared in wax imitation and also various samples of the 10 pound packages used by the manufacturers for exportation, each package containing ten little pound packages. These as a rule are put up very attractively by the sixty odd renovated butter concerns operating throughout the country. The law requires the words "renovated butter" shall appear upon each package in square block letters no smaller than any other lettering upon the package. The packages are made up of card board enclosing the butter wrapped in tissue paper. Some very ingenious brands have been adopted by the makers of this renovated butter which of themselves, without the government requirement of the word "renovated" would indicate anything but a process butter, manufactured from all sorts of rancid and spoiled stock.

The renovated butter law is undoubtedly a little weak. To strictly enforce the law as regards sanitation, the Department of Agriculture must lean upon the internal revenue branch of the Treasury Department. A particular case came before Major Alvord the chief of the Dairy Division, while I was talking with him. A certain renovated butter factory has been conducting its manufacturing in a very slovenly, filthy and unsanitary manner. It has been warned several times by the government dairy inspector to "reform" but has taken this out in promises. A telegram came to Major Alvord asking for instructions as there was no question in the mind of the inspector that the product of the factory was unsanitary. The question now is what to do. If the Department of Agriculture recommends that the internal revenue office take away the license to manufacture, the company would doubtless seek redress through the local court to determine whether its product was actually unsanitary. "It might be a difficult matter," said Major Alvord, "to clearly and conclusively prove this to a jury." Not all men have very clear ideas as to the importance of a cleanliness and sanitation in such matters. With any question as to the outcome the Department of Agriculture hesitates to embroil the internal revenue office in such a fight. At the same time if inspectors are to exert any influence in remedying unsanitary conditions, they must be backed up by the government.

The most brazen and barefaced methods have been employed in Congress this year to prevent any revision of the land laws which would head off speculation in the public do-

... 40 PURE-BRED ...

POLAND CHINA

pigs, some ready for immediate delivery. My hogs are sired by such prize winners as **PERFECT I KNOW, CORRECTOR, CHIEF PERFECTION, LOOK ME OVER, ETC.**

8 RED POLL bull calves and a few heifers. Several ready for shipment. All stock registered.

PRICES REASONABLE.

S. B. WOODS,
ARROWHEAD STOCK FARM Charlottesville Virginia.

Poland Chinas!

I do not believe that anybody has any finer bred or better individuals of the breed than I am offering. It will be hard to duplicate my prices, too. Eight months old Boars and Open Gilts, crated and f. o. b. Enfield, at \$15; 2 beautiful Boar Pigs, now 5 weeks old, at \$10 when 10 or 12 weeks old. Your order will have to come quick for one of them; you never saw as pretty pigs. Also one full blood O. I. C. Boar, farrowed last July, \$20; 8 Sows and 3 Boars, of O. I. C. and P. C. and P. C. and O. I. C. cross at \$15 per pair, 12 weeks old. C. A. WILLIAMS, Ringwood, N. C.

ORCHARD HILL PURE-BRED

POLAND CHINA

Pigs and brood sows for sale. Also a fine Guernsey Bull Calf and S. C. B. Leghorn Eggs. F. M. SMITH, JR., R. F. D. 4, Charlottesville, Va.

BERKSHIRES.

I offer some very pretty pigs from Registered sows, farrowed February and March, 1904, 8 weeks old, at \$6 f. o. b. my express office. Nothing but Bltmore blood in my herd. **ROBERT HIBBERT, Charlottesville, Va.**

Hawksley Stock Farm

has a lot of
BERKSHIRE PIGS

ready for shipment. They are good as the best. Also young Boars ready for service. B. P. ROCKS and S. C. B. LEGHORN Eggs, \$1 for 13. J. T. OLIVER, Allens Level, Va.

WARNER'S

CORRESPONDENCE SCHOOL, at Bradford, Pa., teaches Shorthand, Bookkeeping and Penmanship by mail. Write now.

BERKSHIRES

ANNEFIELD HERD

Contains the

Finest Blood Lines

In England and America.

Young Stock for Sale.
Inquiries cheerfully answered.

SPECIAL: A few extra 6-months old pigs, either sex.

EDW. G. BUTLER, Annefield Farms,
Briggs, Clarke Co., Va.

Pure Bred

Berkshire Pigs.

OA fine lot of young Pigs ready now, six to eight weeks old. Price for either boar or sow pigs, \$5 each, crated and delivered to express company here.

HENRY W. WOOD,

Hollybrook Farm.

P. O. BOX 330, - - - RICHMOND, VA.

Big Spring Stock Farm



Pure bred **LARGE ENGLISH BERKSHIRES** and **DUCO JERSEYS.**

March and April pigs sired by best Imported stock. Nothing but the best offered, and satisfaction guaranteed. **B. E. WATSON,** Pulaski, Va.

Registered

BERKSHIRES For Sale.

Boar and Sow, price, \$25 each. Trio MAM. BRONZE TURKEYS, pure bred, \$10. 15 pure bred **PLYMOUTH ROCK** hens and roosters for \$20. **J. G. HARGRAVE,** Oliver, Va.

The Kind You Ought To Have

Is the kind that is bred at THE CEDARS P. & S. FARM, where the fashionables of the 400 in Poultry and Stockdom can always be found, and where farmers' prices get fanners' stock. **JERSEY CATTLE, DUKOC JERSEYS, and POLAND CHINA SWINE, B. P. R. FOWLS, M. B. TURKEYS, ENGLISH SETTERS and BEAGLE HOUNDS.** WM. G. OWENS, Midlothian, Va., The Cedars P. & S. Farm.

FINE POLAND-CHINAS.

The kind that GROW LARGE—from some of the best blood in the U. S. I have a choice lot of Spring Pigs, both sexes; also a 1/2 Hereford Bull Calf, well marked. If you want high class stock at farmer's prices, write me before placing your orders elsewhere. W. B. PAYNE, Crofton, Va. (Mention Southern Planter.)

ESSEX PIGS.

Some fine ones, 3 months old, not related; from recorded stock, also South-down and Hampshire.

down Lambs. Address, L. G. JONES, Tobaccoville, N. C.

"PIGS" - "PIGS" Registered O-I-C Swine - - FOR SALE - -

WM. E. HAMMOND, Mansfield Farm, Goochland C. H., Va.

TAMWORTH BOARS

Ready for Service; Bred from Registered Stock, Imported from Canada.

I. H. LAREW, Newbern, Va.

Registered P. Chinas Berkshire, C. Whites. Fine large strains. All ages, mated not a 1 in, 8 week, pigs. Bred sows. Service boars and Poultry. Write for prices and free circular. P. F. HAMILTON, Cochranville, Chester Co., Pa.

Poland-Chinas and Chester Whites

AT FARMER'S PRICES.

S. M. WISECARVER, - - Rustburg, Va.

Woodland Farm

offers the best lot of October dropped Dorset Ram lambs which it has ever raised.

J. E. WING & BROS., Mechanicsburg, O.

....BARGAINS....

DORSETS and HEREFORDS

H. ARMSTRONG, LANTZ MILLS, VA.

Mention the Southern Planter when corresponding with advertisers.

main. Take for instance the speeches of Representative Williamson and Representative and ex-Commissioner Hermann, both of Oregon, before the Public Lands and Irrigation Committees of the House. Both these men stated that the present land laws were highly beneficial, and an absolute necessity to the homemaking and development of the West and that the cry of fraud was false, that there were no frauds under them any more than an occasional instance such as is found under any law. The conditions of land law fraud in some of the Western States is not only notorious, but it is a coincidence that at the very time that these two hypocrites were misleading their colleagues in Congress, on April 2 the seventeen members of the Federal grand jury of the district of Oregon, chosen by lot from all portions of that State, forwarded a statement to Washington reciting the most abnormal and vicious conditions of public land affairs in Oregon resulting from the present land laws. The timber and stone act, the desert land act, and the commutation clause of the homestead act. The report is voluntarily presented as the result of the enormous amount of crime which has come before the grand jury in connection with these land laws. Perjury and subornation of perjury, it is stated, have become fine arts. Speaking of the commutation clause of the homestead law the report says that "this is another law that masquerades under the thin disguise of a boon to honest entrymen" and "the desert land law is and has been used chiefly for securing large tracts for grazing purposes. It is often more of a burlesque than the old timber culture law."

GUY E. MITCHELL.

THE NEW LEFFEL CATALOG.

The new catalog of James Leffel & Company, of Springfield, Ohio, who are advertising the famous Leffel engines and boilers in our columns, is a book that will interest many of our readers. It should interest any one who has to do with steam power. The Leffel engines are a type that is peculiarly adapted to farmers' uses. This book goes into the matter of their making and shows on what their superiority is based. The book is well gotten up, printed on heavy enameled paper, has numerous full page and many smaller illustrations and is filled with just such detailed information about engines and boilers as to make it truly valuable to engine users.

The book will be mailed free to all writing the Leffel Company for it.

Old Gentleman—And what does papa call you, Elizabeth?

Precious Infant—Papa calls me Pwe-cious.

O. G.—And what does he call mamma?

P. I.—Oh, Darling and Fool.

V. P. I. Farm Bulletin

We are now offering some choice young Bulls of the following breeds:

Shorthorn, Hereford, Aberdeen-Angus.

Write at once for pedigrees and prices.

D. O. NOURSE, Prof. of Agr. Blacksburg, Va.

WM. T. THRASHER, Springwood, Virginia, BREEDER OF PURE BRED

Short Horn Cattle and Poland-China Hogs.

FOR SALE: 2 yearling bulls, good ones, ready for service, sired by Verbona's Champion No. 12983; some younger bulls, sired by Royal Chief No. 185432; also some Fall Poland China shoats of both sexes. Come or write.



COOK'S CREEK HERD SCOTCH - TOPPED SHORTHORNS...

Herd Headed by Governor Tyler, 188548, 1st prize aged bull at Radford Fair, Young Bulls and heifers for sale. Inspection and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

ELLERSLIE FARM

Thoroughbred Horses

AND SHORTHORN CATTLE,

Pure Southdown Sheep and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON, CHARLOTTESVILLE, VA.

MEADOW BROOK SHORTHORNS.

I have several very fine Shorthorn Red Bull Calves 6 to 10 months old, and several very nice yearling Shorthorn Heifers for sale at farmer's prices. C. A. SAUNDERS, Meadow Brook Stock Farm, Culpeper, Va.

WANTED 20 VIRGINIA or NORTH CAROLINA GRADE SHORTHORN

heifers, 2 to 3 years old, bred to Registered Bull, and to calve from August to January. Address, stating price, breeding on both sides, weight and age. JANNEY BROS., Gloucester, Va.

I OFFER

2 Reg. Ayrshire Bulls,

One 10 mos. old,PRICE, \$40.00.
One coming 3 yrs. old,PRICE, \$65.00.

Low considering Quality.

Registered and high grade HAMPSHIREDOWN SHEEP of best breeding. Rams, Ewes and Lambs for sale. Stock and Prices will suit.

J. D. THOMPSON, Round Hill Va. Meadow Brook Stock Farm.

Angus Cattle for Sale LOW.

- 1 Reg. Bull Calf. 8 mos. old.
 - 1 Reg. Heifer Calf 4 mos. old.
 - 3 $\frac{3}{4}$ Grade Angus Bull Calves.
 - 3 15-16 Grade Angus Bull Calves.
 - 1 Bull Calf out of a fine Short Horn Cow by our Angus Bull.
 - 11-15 16 Grade Angus Heifer Calf.
- These grades calves look like thoroughbreds, and will please the most fastidious.
- 2 First Class Family Milk Cows, fresh, 5 gal-
ons per day.

W. M. Watkins & Sons, Saxe, Charlotte Co., Va.

GREENFIELD HERD OF

Aberdeen Angus Cattle.

Baron Ida, 20184 (Champion yearling, 19
firsts, 17 times in 1st prize herd, 4 firsts on
produce of sire and 3 times at head of grand
sweepstakes herd) at head of herd.

The females in this herd are prize winners
or the immediate descendants of prize win-
ners sired by such noted bulls as Champion
Lord Hillhurst, Beau Forbes H., by Beau
Bull (champion of the West for two years);
Cham. Baron Ida, Ludolph 4th, Rustler 2d.
Choice calves from the above cows sired
by Baron Ida, Encouragement 46382, and
Erard 65580.

WARREN RICE, Winchester, Va.

H. F. COLEMAN & SONS, MULBERRY GAP, TENN.

—BREEDERS OF—

ABERDEEN-ANGUS CATTLE.

JANNET'S KING, 48271, greatest
son of Valiant Knight II, 29331, first
prize bull at all three of the Interna-
tional shows, heads the herd. Visitors
and correspondence invited. Young
things for sale.

MONTEBELLO HERD

ABERDEEN-ANGUS CATTLE

FOR SALE—2 Registered Bulls, calved
Dec. 17th, 1902, and Aug. 28th, 1903.

Berkshire Pigs

(Biltmore Strain.)

farrowed May 1903. For terms, apply to
L. H. GRAY, Orange, Va.

ROSEDALE HERD

Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as
low as good breeding will permit. Inspec-
tion of herd and correspondence invited.

ROSEDALE STOCK FARM, Jefferson
Va.

WITH THE ADVERTISERS.

Our old friends, Wm. Cooper &
Nephews, are advertising Cooper Sheep
Dip again this season.

Alfalfa Bacteria, in the shape of in-
oculated soil, can be had of the Ewell
Farm, at reasonable prices.

Last year's numbers of the Southern
Planter are wanted by our Business
Office. See the ad. elsewhere.

Finely bred Poland Chinas can be
had of Mr. W. B. Payne. Look up his
ad.

Mr. Joe E. Wright, Prop. of the Ken-
tucky Jack Farm, is offering some
choice Kentucky bred Jacks.

The O. K. Harry Steel Works has an
ad. on another page of Steel Tanks,
etc., all necessary and useful adjuncts
to a progressive farmer.

Hydraulic Pumps are offered by the
Standard Hydraulic Pump Co., Roan-
oke, Va.

A working Farm Manager is wanted
by Box 485, Richmond, Va.

A fine lot of O. I. C. pigs at right
prices can be had of the Mansfield
Farm.

Parties needing all kinds of fruit
and vegetable carriers, will do well to
consult the advertisement of the South
Side Mfg. Co.

Tamworths, the "lean bacon" hogs,
are offered in another column by Mr.
I. H. Larew.

The Wallersteil Produce Co. are
after your wolf. Look up the ad. on
another page.

The Richmond Buggy & Wagon Co.
are making a "Special Drive" this
month in their \$50 buggy—made in
Virginia.

If you need anything in the heavy
machinery line, such as Threshers,
Hullers, Peanut or Tobacco Machinery,
better consult the Cardwell Machine
Co.'s ad.

The Famous Mfg. Co. is advertising
its Champion Hay Press with us again
this season. We invite attention to
the ad.

The Filston Farm has an attractive
card in another column. Berkshires,
Collies and Poultry are the offering
under the legend that "Filston prod-
ucts are good."

The Rife Engine Co. start the sea-
son's advertising with this issue. The
Hydraulic Ram of this Company is
known the world over.

F. E. Myers & Bro., the well-known
pump men, have a card in another
column.

Dederick's Hay Presses have been
offered our readers for generations.
Look up the ad. elsewhere.

Notice the change in the ad. of the
Blackman Stock Remedy Co.

Louisburg, N. C., Mar. 31, 1904.

Jos. Haas, V. S., Indianapolis, Ind.

Dear Sir,—You will please ship me
at once one can of your Hog Remedy.
I can certainly recommend it to be as
you represent. Yours truly,
J. P. TIMBERLAKE.

JERSEY BARGAINS.

10 HEIFERS out of cows from the best in
my herd, which I have been 39 years in
building. They are the prettiest I ever saw.
Price, \$30 each.

2 Reg. Bull Calves

6 wks. and 6 mos. old. Each out of a cow
giving 2 pounds of butter per day, and by

Cocquette's John Bull.

he out of a cow with a record of 18 pounds
butter per week. Price, \$50 each. Also a
U. S. SEPARATOR for sale at \$40; in good
repair and cost \$125 new.

A. R. VENABLE Jr.,
Farmville, Va.

Swift Creek Stock and Dairy Farm



Has for sale a large num-
ber of nice young regis-
tered A. J. C. C.

JERSEY BULLS AND HEIFERS.

None better bred in the South. Combining
closely the most noted and up-to-date blood
in America. Bulls 4 to 6 months old, \$65;
Heifers, same age, \$35. POLAND CHINA
PIGS, \$5 each. Send check and get what
you want.

T. P. BRASWELL, Prop., Battleboro, N. C.

THOROUGH-BRED...

Berkshire Boars, Dorset Buck Lambs, Jersey Bull Calves.

All stock in best of condition and
guaranteed as represented.

F. T. ENGLISH, Centreville, Md.

Pure-bred

Réd Poll Bull

For sale, or will exchange him for
first-class pure bred Jersey Heifers or
good grade Ewes. Dr. F. E. WIL-
LIAMS, R. F. D., Charlottesville, Va.



ANGUS & HOLSTEIN CATTLE.

Registered and grades, of all ages
and sexes, and of champion blood
for the beef and milk strains and
at moderate prices. Also Nursery
stock of all descriptions.

MYER & SON, Bridgeville, Delaware.

—FOR SALE—

2 ABERDEEN-ANGUS HEIFERS,

Bred from "Hero of Bunker Hill," 31462, at
farmer's prices. They are blacky, good bone,
mealy coats, and WIDE AS A CART. J.
TABB JANNEY, Van Clevesville, A. Va.

NOTICE!

S. C. Brown Leghorn Eggs for Hatching, 75c
per 10, \$4.50 per 100.

W. B. GATES,
Rice's Depot, Va.

Radia

..... IS A

HOUSEHOLD

Remedy



Cures —
LaGrippe,
Pneumonia,
Croup,
Influenza.



GIVES
PERMANENT
RELIEF.



The Radia Company

Manufacturing Chemists,

Dept. K. DURHAM, N. C.

HELPS TO KEEP WELL.

Lettuce and celery help nervous people.

Visit your dentist every six months. Eat tomatoes, which are good for the liver.

All varieties of the onion tribe help digestion.

Don't worry unless you really enjoy worrying.

Rest for half an hour, anyway, in the middle of the day.

Spend at least an hour outdoors every day—more if possible.

Never drink water which has stood in a sleeping room all night.

Peas, beans and lentils are a very economical food, and also nourishing.

Eat an orange or an apple—two of them are better—every morning before breakfast.

Eat always less than satisfies you to repletion. Drink two quarts of water a day—eight glasses.

Don't have a light in your room at night of any kind. It takes up the oxygen of the air, and is irritating to the eyes.

The paper handkerchief is suggested by a hospital magazine as more sanitary in some kinds of contagious diseases than the linen one. It can be destroyed at once.

Air out your house thoroughly twice a day—early in the morning and before you go to bed. Then sleep with a current of air through the room. Pile on the bedding if you need it.

These few rules, observed faithfully, will make you healthy, wealthy and wise—for is not a healthy man always rich?—and his health is a sign of his wisdom. Try these for the first half of 1904, and you will need no other New Year's resolutions.—Canadian Thresherman.

EWELL FARM SALE.

The 30th Annual Sale of Ewell Farm will be held at Spring Hill, Tenn., on Friday, June 3rd. About 60 head of horses and 30 head of Jerseys will be sold. Among the sires represented will be John R. Gentry, 2:00½; Brown Hal, 2:12½; Re-Election, 2:27; McEwen, 2:18½, and other horses of note. The popular strains of Jerseys included in this sale, will be hard to beat. Capt. Geo. Campbell Brown, proprietor of Ewell Farm, is going to make this his best sale, and parties looking for bargains will do well to attend.

CORRECTION.

In our last issue, we made an error in the advertisement of Hon. G. M. Wallace, Falmouth, Va. The wording appeared as "2 Grade Cows" whereas it should have been "2 Fresh Cows." Mr. Wallace raises only pure-bred Guernseys and has not a grade on his place. We make this correction in justice to him.

THE ROCKER CHURN.

Among the new advertisers in our columns this season, is the Rocker Churn Mfg. Co., of Forsyth, Ga. As its name implies, this company makes a churn, and from the descriptive circular before us, we might say a very good and useful churn—one that saves a good deal of time and labor. It is handy, easy to operate, easy to clean and has numerous other points of merit fully described in a circular which will be sent free to all inquirers. Look up the ad and send for it.

The Zenner Disinfectant Co., which is advertising its well known disinfectant, dip and lice killer in another column, sends us the following letter recently received from Mr. Glen Fleming, Arcadia, La.:

"I have used Zenoleum Disinfectant for the past two years and find it the best thing I can get for my hogs. I find it will kill lice, ticks and fleas on my hogs and dogs. I have cured several cases of mange with it. My pointer dog had a very severe case of mange and I cured him well and clean with it. I can truly recommend it to every one to have on the place for a general disinfectant."

*** WANTED ***

25 to 50 GRADE DORSET EWES, medium price; also 1 each, good yearling DORSET and SOUTHDOWN Rams, registered, GRIMES, BROS., Lexington, N. C.

"Feeds and Feeding"

Prof. Henry's Great Book for
Farmers and Stockmen.

Delivered anywhere for \$2.00
With the SOUTHERN PLANTER, 2.25

The RICHMOND, FREDERICKSBURG
and POTOMAC R. R.
and WASHINGTON SOUTHERN R'Y
THE RICHMOND-WASHINGTON
LINE.

The Link Connecting the

Atlantic Coast Line R. R.,
Baltimore and Ohio R. R.,
Chesapeake and Ohio R'y,
Pennsylvania R. R.,
Seaboard Air Line R'y
and Southern R'y.

Between all Points via Richmond, Va.
Fast Mail, Passenger, Express and Freight Route between Richmond, Fredericksburg, Alexandria, Washington, Baltimore, Philadelphia, New York, Boston, Pittsburg, Buffalo, and all points North, South, East and West.

W. D. DUKE, C. W. CULP,
General Manager. Asst. Gen'l Man.
W. P. TAYLOR, Traffic Manager.



COOPER SALE MAY 30

AT COOPERSBURG, PA.

A PLEASED BUYER IS THE BEST ADVERTISEMENT.

The imported Jersey Cattle sold at our May, 1903, Auction Sale have given universal satisfaction. My most sanguine expectations have been more than realized. How could it be otherwise? Individually, they were strictly **FIRST-CLASS**.

BEST OF ALL, they were bred on both dam and sire's side from animals that have made the Island cattle so famous—the blood that wins at the churn and in the show-ring.

Catalogues ready for distribution May 1, and owing to great cost publishing same, they will only be sent on application. Address

T. S. COOPER, "Linden Grove," Coopersburg, Pa.

P. S.—Would respectfully request parties who are in want of an extra fine bull calf, or a few fine heifer calves, that they send for a catalogue, which will give them full particulars, and if they are not able to attend the sale in person, that they send in their bids, and they will receive the same attention as if the buyer was a bidder himself. It is with pride that we refer to parties that have entrusted such orders to us. This will be a rare chance to get calves out of the very best cows the Island can furnish, and sired by prize winning bulls, and they will not cost you more than others that have no breeding.—T. S. C.

KELLY, 22283. Record, 2:27.

Sire of McChesney, 2:16¾, Etc.

Bay horse, by Electioneer 125, first dam Esther, dam of Expressive 3, 2:12½; Express, 2:21, etc.; by Express, second dam, Coliseum, by Colossus.

Kelly represents the highest type of a trotter, having fine size and the form and finish of a thoroughbred.

For terms of service and keep of mare address

W. J. CARTER, Richmond, Va.

Kelly will serve at my private stables, 1102 Hull St., Manchester, Va.

GREAT STAKES, 25521.

Record, 2:20.

Sire of Captain, 2:16¼; Foxhall, 2:19¾, etc. Bay horse, by Billy Thornhill, 2:24, dam Sweetstake, by Sweep Stakes, 2:38. Fee, \$25.00 the season.

W. H. NELSON, 1428 East Franklin St., Richmond, Va.

BURLINGAME 26235. Record, 2:18¼.

Brown horse, by Guy Wilkes, 2:15½, dam Sable, dam of Sable Wilkes, 2:18, etc., by The Moor, 870.

N. B.—Very fast and a great show horse.

FEE, \$25.00.

LISSAK, bay horse, by Burlingame, dam Helice, dam of Clarion, 2:16½, by Norval, 2:14½.

FEE, \$15.00. Address,

SPRING GARDEN FARM,

Cool Well, P. O., Amherst Co., Va., or

ROBT. TAIT Norfolk Va.

W. J. CARTER, ["BROAD ROCK."] TURF JOURNALIST.

Address P. O. Box 929, - - - Richmond, Va.

Pedigrees of thoroughbred and trotting horses traced, registration matters attended to, and stallion circulars and cards prepared.

Representing the Times-Dispatch and Southern Planter, Richmond, Va.; Sports of the Times, New York; Kentucky Stock Farm, California Breeder and Sportsman, etc.

CHORISTER —BY— FALSETTO—ADDIE C.

"One of the handsomest thoroughbreds in America and a sure success as a getter of race horses."—*Major Daingerfield.*

Standing 16¼ and weighs 1,300 lbs. He held the world's record for a mile as a 3 year old and is the sire of "Corruscate" who holds the mile record for Canada 1:38½. All his get win and are racing up to 8, 9 and 11 years of age, and won \$30,000 in 1902.

Fee \$50.00 cash, approved half bred mares \$20.00

All possible care taken to prevent accidents or escapes but no responsibility assumed for any that may occur.

For further particulars apply to D. K. KERR, Manager Antrim Stock Farm, Warrenton, Va.

Fine Horses and Mules for Sale.

I am offering the best lot of mules ever seen on the Richmond market. Write for prices or call at my stables.

J. S. WHALEY,
Salesman.

S. P. CLAY,
1917 E. Franklin St., Richmond, Va.

MAGAZINES.

The May number of Lippincott's is notably stirring and strong from the opening page of its novelette through to the close of the last short story. "Flgs from Thistles" makes Frederic Reddale's third appearance through the medium of a long tale in this magazine, and his work may be honestly described as good, better, and best. This last shows maturity in both the plot and the handling of it. Its heroine, Janet Persis, is young and pretty, yet too prudent to marry for love alone, after an apprenticeship to poverty as one of seven daughters of a country clergyman. For this reason she falls an easy prey to the plans of an anxious mother in regard to her son, a Baronet, of splendid physique but of infantile mentality. The wedding takes place and then the real tale begins and the reader is devoured with desire to know in a hurry whether the mother's amazing scheme is to thrive or to come to naught.

Heading the list of seven short stories is "In the Springtime," by Henry Wysham Lanier, a happy mingling of spring rain and loving. A rousing sea-story by Patrick Vaux is entitled "Grit: A Tale of the Next War." "Lavender," by Lizette Woodworth Reese, is a touching story of an erring girl and a mother's faith rewarded. This is remarkably well told. Another one of Ella Middleton Tybout's parables is called "The Blast of the Trumpet," and sustains her reputation for humor.

One of the stories in the May St. Nicholas will be "The Hero of San Benito," by Rev. Charles M. Sheldon, author of the world-famous "In His Steps," telling of a lad's bravery in a theater fire and panic. The story, now made public for the first time in this country, was related to Mr. Sheldon by an Italian lady who was in the theater at the time of the fire. The young Rudolph Cluny is a real hero of flesh and blood, although he is known by another name.

The May St. Nicholas on its stamp page notes a growing difficulty in securing fine copies of the early issues of United States stamps. Poor making, careless handling, and laxness in collecting are counted the main causes of the increasing difficulty in securing these stamps in condition acceptable to careful collectors. Young collectors are advised to take special care in gathering and preserving specimens of these early United States stamps.

Additional interest is given to the entertaining account in the May St. Nicholas by Helen Dawes Brown of "Magdalen Tower and May Morning" when it is known that there is in this country a church that has not only copied the beautiful Magdalen Tower of Oxford, but for a quarter of a century has borrowed its mid-air sunrise service. There is this difference, however: the Chapel of the Good Shepherd in Chelsea Square, New York City,

Local agencies and complete repair stocks every where

M'CORMICK HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

Large ENGLISH BERKSHIRES.

BOARS ready for service.

Pigs ready to ship.

Bred Gilts.

Forest Home Farm,
Purcellville, Va.



HILL TOP STOCK FARM.

Berkshire Hogs

A SPECIALTY

S. Brown Allen, who succeeds H. A. S. Hamilton & Co. in the ownership and management of this celebrated Stock Farm, with increased facilities, will make a specialty of breeding Berkshire Hogs, without regard to cost from the purest and most royal strains of imported blood.

My BERKSHIRE PIGS

For this Spring delivery will weigh 100 pounds at 12 weeks of age, and for INDIVIDUAL MERIT cannot be excelled in the United States. They will make show hogs against any and all competitors and are being engaged every day. The last of my Fall and winter pigs have been sold, and orders will only be taken for Spring delivery. S. BROWN ALLEN, Staunton, Virginia, (Successor to H. A. S. HAMILTON & Co.)

LARGE YORKSHIRE HOGS

THE COMING BACON BREED—
THE MOST PROLIFIC BREED—

48 pigs from four litters. Pigs ready for delivery. Our prices always the lowest.

INDIAN GAMES, the fashionable table fowl.

WHITE LEGHORNS, the greatest layers.

WHITE WYANDOTTES, the best all round fowl. Also

JERSEY BULLS and HEIFERS from cows with recorded butter tests of 18 to 24 lbs. in 7 days.

BOWMONT FARMS. Salem, Va.



DAN PATCH 1:56 1/4

DAN PATCH 1:56 1/4

Fastest Harness Horse ^{IN} THE World

HOLDS FOLLOWING WORLD RECORDS:

Mile Record,	1:56 1/4
Half-Mile Record,	0:56
Mile Record on Half-Mile Track,	2:03 1/4
Mile Record to Wagon,	1:57 1/4
Mile Record to High Wheel Sulky,	2:04 1/4
Two-Mile Record,	4:17

HIS BEAUTIFUL COLORED PICTURE FREE

PRINTED IN SIX BRILLIANT COLORS
Size 21 by 28 inches

We own the World-Famous, Champion Pacing Stallion, Dan Patch, and have Fine Lithographs of him. They give a complete record of all his Races and Fast Miles and are Free of Advertising. The fine, large Colored Lithograph shows Dan hitched to sulky just as you see him in this engraving.

IT WILL BE MAILED TO YOU FREE
Postage Prepaid

IF YOU ANSWER THESE TWO QUESTIONS—AT ONCE

- 1st.—How Much Stock Of All Kinds Do You Own?
2nd.—Name Paper In Which You Saw This Offer.

Write to

International Stock Food Co.
Minneapolis, Minn., U. S. A.

holds its service on Easter morning, while that of Magdalen College takes place on the first of May. It is predicted that other American churches may, if their architecture makes it possible, adopt some form of Oxford's beautiful annual service.

The present critical condition in British politics gives special timeliness to the glimpse of life in the English House of Commons announced as the subject matter of the May Century's leading article, "The Mother of Parliaments." Under this title Henry Norman, M. P., has written at length of this "place of quaint ceremonial and queer habits"; and numerous drawings by Andre Castaigne will add to the vividness of the sketch.

There will be two portraits of unusual interest in the May Century, one of Tolstoi, another of President Roosevelt. The Tolstoi likeness is from a drawing made by George T. Tobin from a photograph, and shows Tolstoi at twenty-nine, as an officer in the Crimean War. The President's portrait, in tint, will be the frontispiece of the issue, and is from a photograph taken by Arthur Hewitt at the White House, January 20, 1904.

PERFECT SATISFACTION FOR WIND GALLS.

Weems, Va., Jan. 30, 1904.

The Lawrence-Williams Co., Cleveland, O.:

I used your Gombault's Caustic Balsam for reducing wind galls and got perfect satisfaction. L. T. BUCK.

EWELL FARM.

30th ANNUAL SALE OF TROTTING AND PACING

HORSES AND JERSEY CATTLE,

FRIDAY, JUNE 3RD. 1904, AT EWELL FARM, EWE LL'S STATION,
(SPRING HILL P. O.,) MAURY CO, TENNESSEE.

Fifty horses from Ewell Farm, Piedmont Farm (W. F. Garth, Prop.), Huntsville, Ala., and Cleburne Farm (M. C. Campbell, Prop.), Spring Hill, Tenn., including youngsters with speed, and horses of suitable ages for racing, driving or riding. By such sires as JOHN R. GENTRY, 2:00 1/4; BROWN HAL, 2:12 1/4; RE-ELECTION, 2:23 1/4; McDOWEN, 2:18 1/4; SENTINEL WILKES, DUPLEX, 2:17 1/4; ACTON WARD, 2:15 1/4; HAL BROWN, son of BROWN HAL, ALMONT, JR., etc.

THIRTY JERSEYS, consigned by M. C. CAMPBELL, SPRING HILL, TENN., and M. M. GARDNER, NASHVILLE, TENN. All useful young animals of the best Tennessee and Imported Strains. Both of these herds are ably represented at the St. Louis Exposition. Write for catalogue to GEO. CAMPBELL BROWN, Ewell Farm, Box L, Spring Hill, Maury county, Tenn.

We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

Proprietor of the Bridge Creek Stock Farm, Warrenton, N. C.



THE - OAKS - STOCK - FARM.

A. W. HARMAN, Jr., Prop.,

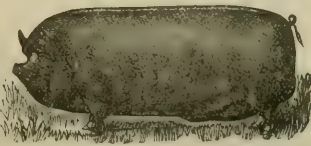
We breed and ship the best strains of

Large ENGLISH BERKSHIRES

Send us your order and get the best.

6 coming 2 year old JERSEY HEIFERS for sale; also 2 fine Jersey Cows; 1 yearling heifer, a perfect beauty. Write for price.

ALEX. HARMAN, Mgr., Lexington, Va.



REPORTS.

- U. S. Department of Agriculture, Washington, D. C. Office of Secretary. Circular 11. Methods and benefits of growing sugar beets.
- Office of Experiment Stations. Experiment Station Record, Vol. XV, No. 8.
- Bureau of Animal Industry. Circular 44. Officials, associations and educational institutions connected with the dairy interest for the year 1904.
- Bureau of Forestry. Circular 27. Reclamation of flood damaged lands in the Kansas River Valley by forest planting.
- Forest Fires in the Adirondacks in 1903.
- Bureau of Plant Industry. Bulletin 51, Part III. Fruit trees frozen in 1904.
- Division of Foreign Markets. Bulletin 35. Foreign import tariffs on meat and meat products.
- Division of Foreign Markets. Bulletin 36. Foreign import tariffs on fruits and nuts.
- Division of Foreign Markets. Bulletin 37. Foreign import tariffs on grain and grain products.
- Office of Public Road Inquiries. Circular 37. The railroad and wagon roads.
- Bureau of Soils. Circular 13. The work of the Bureau of Soils.
- Farmers' Bulletin No. 194. Alfalfa seed.
- Farmers' Bulletin No. 195. Annual flowering plants.
- Arkansas Experiment Station, Fayetteville, Ark. Bulletin 77. Cow pea experiments.
- Bulletin 79. Peach growing in Arkansas.
- Bulletin 80. Cow pea hay.
- Cornell Experiment Station, Ithaca, N. Y. Bulletin 216. Spraying experiments.
- Illinois Experiment Station, Urbana, Ill. Bulletin 93. Soil treatment for peaty swamp lands.
- Bulletin 94. Nitrogen bacteria and legumes.
- Kansas State Board of Agriculture, Topeka, Kas. Report for quarter ending March, 1904.
- Maryland Agricultural College, College Park, Md. Quarterly, February, 1904. Fertilizer analyses.
- New York Experiment Station, Geneva, N. Y. Bulletin 242. Ash and grit for growing chickens.
- Bulletin 247. Sulphur sprays for orchard trees.
- Columbus Horticultural Society, Columbus, O. Journal of the Society, March, 1904.
- Pennsylvania Experiment Station, State College, Pa. Bulletin 65. Forage and sowing experiments 1902.
- Virginia Experiment Station, Blacksburg, Va. Bulletin 142. Orchard Studies XV. The Bitter rot of apples.
- Fourth report of State Entomologist

Local agencies and complete repair stocks everywhere

CHAMPION HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

THE GROVE STOCK FARM

—I OFFER THIS MONTH—

5 Dorset Rams,

1 YEAR OLD, REGISTERED. PRICE TO INCLUDE TRANSFER.

1 HOLSTEIN FRIESIAN Bull, 18 months old, sired by "Sir Netherland of the Grove," Dam "Floyd Reynolds." Also 3 young bulls, 9 months old, sire of these bulls has 24 of his nearest ancestors that gave 21 lbs. of butter in 7 days.

T. O. SANDY, Burkeville, Va.

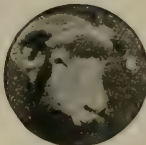
N. & W. AND SOUTHERN R. R.

CISMONT DORSETS

CISMONT STOCK FARM offers well developed young Dorsets of the best blood of England and America.

Prices Reasonable.

G. S. LINDENKOH, Keswick, Albemarle Co., Va.



EDGEWOOD STOCK FARM DORSETS! DORSETS!

You men in the early lamb business need Dorset blood. No lamb grows like a grade Dorset. Grade Dorset ewes will lamb in December.

One cross will bring results. Try a Dorset ram. Our fall lambs are beauties. Write us or come to see them.

J. D. and H. B. ARBUCKLE, Maxwellton, Greenbrier, Co., W. Va.



HEEBNER'S Roller Bearing HORSE POWER and Little Giant Thresher and Cleaner make the hardest and most economical threshing outfit known. The thresher is made in three sizes, 21, 26 and 30 in. cylinder. It is a simple, easy to handle, light running, strong, durable and effective machine. Will thresh and clean wheat, rye, oats, barley, fax, rice, alfalfa, millet, sorghum, timothy, etc. Capacity 200 to 500 bush. Re-ers for 1, 2 and 3 horses (equal to 2, 4 and 6 horses in lever power). For cutting dry feed, ensilage and chaffing, sawing wood, pumping, separating grain, etc. Strongest and lightest running power on the market. Mounted or unmounted, as ordered. We also make Lever Sowers, Feed and Eagle Cutters, Wood Saws, Feed Grinders, etc. Send for FREE Catalogue.

HEEBNER & SONS, No. 24 Broad St., Lansdale, Pa.

and Plant Pathologist on the San Jose scale.
 Virginia Weather Service, Richmond, Va. Annual summary 1903.
 Report for February, 1904.
 Report for March, 1904.
 West Virginia Experiment Station, Morgantown, W. Va. Bulletin 91. Commercial fertilizers. Report for 1903.
 Report of hearing before the Committee on Agriculture and Forestry, United States Senate, January, 1904, on the Latimer and Brownlow Good roads bills.

CATALOGUES.

A. B. Farquhar Co., York, Pa. Farquhar Machinery Catalogue, 1904. This is a beautiful catalogue of the well known implements and machines made by this house.

Studebaker Bros. Mfg. Co., South Bend, Ind. A personal talk to the dealer by the Studebaker man. This is a very interesting pamphlet on the vehicles made by the well known house.

Peter Henderson & Co., New York. Implement catalogue for the garden, farm and lawn.

Percy L. Banks, Union St., Norfolk, Va. The Watson four row potato sprayer.

Proceedings of the 2nd Annual Convention of the National Nut Growers Association held at New Orleans, La., October, 1903. J. F. Wilson, secretary, Ponlan, Ga.

Golden seal as a money crop. Its history, use and cultivation by Jno. Hoag, Jr.

A VISIBLE OBJECT.

A testy old gentleman forced to lay over an hour in Dull Town was cursing his fate, when a mild-mannered citizen strolled into the station and essayed conversation. Taking the many labels on the visitor's bag as a leader, he said—

"You've travelled about quite a bit?"

"Yes."

"Ever seen a' Injun?"

"Many a one."

"Ever seen a Chinese?"

"Thousands of them."

"Ever seen a Jap?"

"Yes."

"Ever seen a Jew?"

"Yes. D—"

"Ever seen a——"

The testy old gentleman could stand it no longer, and, rising to his full height, shouted in stentorian tones, "Did you ever see a fool?"

The mild-natured citizen let his mild blue eye rest on the irate traveller a moment, then in a sweet, low voice replied,—

"Yes, I hev."—May Lippincott's.

Nell: Why does she consider her marriage a failure?

Belle: Well, when she threatens to leave him he never seems to raise any sort of fuss.

STUDEBAKER

USED ALL OVER THE WORLD

For More Than Fifty Years

Studebaker Wagons and Carriages have been known the world over as the best that skill and honest work can produce. They have this reputation simply because they deserve it. They are built with exceptional care, from the pick of the world's best materials, in the largest and best equipped vehicle factory in the world. They are made right and they give unusual service and exceptional satisfaction.

Why not get a Studebaker and be sure?

Wagons=Carriages=Harness



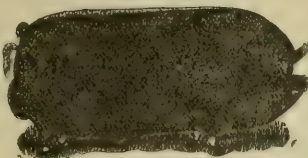
Sold By Dealers Only

Send For Free Book No. 56

Studebaker Bros. Mfg. Co., South Bend, Ind.

Branches—New York, Chicago, San Francisco, Portland, Ore., Kansas City, Salt Lake City, Denver, Dallas.

When you go to the St. Louis Fair be sure to see the big Studebaker Exhibit in Transportation Building.



I am now prepared to book orders for pigs from imported **Kingstone Poetess**, bred by C.C. Smith, Kingstone Commons, England. Also from **Queen of Fassifern**, bred by James Lawrence, of Shrivensham, England. Also from **Queen Alfreda**, from imported Loyal Mason, imported Loyal Berks, imported Princess Alfreda, Prince Alfred, etc. These are as fine as the world can produce, though I cannot expect fancy prices for them like some breeders get. Bacon your mongrels and start aright in the hog business. Remember me when pricing **shorthorns** (Durhams).

THOS. S. WHITE, Fassifern Stock Farm, LEXINGTON, VIRGINIA.

...Jersey and Guernsey Heifers... FOR SALE

Berkshire sows due to farrow in April and May, several boars large enough for service, pigs in pairs or trios not akin.

EGGS FOR HATCHING from Bronze turkeys, Pekin ducks, B. P. Rock and Brown Leghorn fowls. A few trios for sale, also a fine lot of Fox Terrier puppies by imported Rozanne.

M. B. ROWE & CO., Fredericksburg, Va.

GOOD HOUSEKEEPING.

TO BOIL A HAM.

Wash the ham and put it to soak in clear cold water for some hours, or over night. Scrape it thoroughly and put into the ham boiler covered with cold water and let it come slowly to a boil. This takes from one to two hours, then it should boil very slowly fifteen minutes for each pound. When it is done let it cool and then take off the skin, brush with beaten white of egg, dust with cracker crumbs and let it bake slowly for an hour. Do not cut until perfectly cold. The main thing in cooking a ham is to have it done slowly, and never boil hard. That makes it tough.

HAM SALAD.

When you have used all the ham but the scraps, collect these and with about a fourth as much stale bread run it through the meat grinder. With this mix an equal quantity of finely chopped cabbage, or celery, pour over a dressing and serve for tea.

DRESSING.

Mix two teaspoons of ground mustard with one teaspoon of salt, one of black pepper, three tablespoons of sugar, one teaspoon of celery seed. Cream two tablespoons of butter and beat two eggs. Mix all this together and pour over it two cups of boiling vinegar, return it to the stove and let it thicken. When cold, thin out with rich cream. Pour over the ham and cabbage and you will find it a delightful relish for tea.

BAKED FISH.

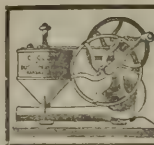
Boil a Rock or Sheephead, when well done, pick it to pieces with a fork, take out all the bones and the skin, butter a macaroni dish and arrange a layer of stale bread crumbs in the bottom, then put a thick layer of the fish, with pepper and salt and little pieces of butter about on it, then another layer of the crumbs and another layer of fish until the dish is full. Let the crumbs come last. Scald a pint of fresh milk with a small onion in it and season it slightly with pepper and salt. Pour this over the dish and let it bake slowly for a half hour or more.

BREAD AND MILK OMELET.

Soak a cup of stale bread crumbs in a cup of fresh milk for more than an hour. Beat eight eggs separately. Just before breakfast stir the bread and milk into the yolks and then fold in the whites. Heat the skillet and put a large spoon of butter in it, as soon as it melts add the eggs and let them cook a few minutes before touching them. Stir from the bottom to prevent browning but try not to break them up more than is necessary.

MEAT PIES.

You may use beef, veal, mutton or chicken for these and they are always good. Line the pans with a rich biscuit dough. Chop three cups of meat fine removing all gristly pieces and bones, lay it in the bottom of the pan and slice four hard boiled eggs over it,

**DUST SPRAY!** Are You Interested?

LISTEN! Our Machines and Formulas were used in every comparative test made as the standard system. Growers use and recommend them everywhere. We make our compounds and guarantee strength, purity and keeping qualities. Our stock compound of chemically pure sulphate of copper and lime will form no new compounds, remains in suspension until applied to the tree and there old Mother Nature makes the Bordeaux mixture. We are in close touch with all who use the system we have written are doing well with it. Do you want to find out? Write to headquarters, DUST SPRAYER MFG. CO., 510 Broadway, Kansas City, Mo. Dept. F.

ROSEMONT HEREFORDS.

HEADED BY
THE FAMOUS

ACROBAT 68460,

Choice young stock for sale at all times. Visitors welcome.

Come and inspect the best herd in the South

ROSEMONT FARM. Berryville, Clarke Co., Va.

ACROBAT 68460.

Bacon Hall Farm.**Hereford Cattle :- Berkshire Hogs**

REGISTERED—ALL AGES.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

E. M. GILLET & SON, - Glencoe, Maryland.**Hereford Cattle.****Sires in service: IMP. SALISBURY 76059 (19083); LARS JR. 85297.**

My present offering consists of Bull Calves, Aged Bulls, tested and ready for service; breeding Cows in calf to above sires. These cattle are bred right and well developed and the prices are attractive. Call and make your personal selection or write. I have shipped Herefords, ordered by letter, satisfactorily into more than a dozen States.

Murray Boocock, Owner Castalia Herefords,**Keswick, Alb. Co., Va.****Registered • Herefords,**

Herd headed by the Grand Champion

American Royal Show**PRINCE RUPERT, 79539.****Special Offer:****Two Cows, young, bred to Prince Rupert.**

All Inquiries Cheerfully Answered.

EDWARD G. BUTLER, Anfield Farms, BRIGGS, Clarke Co., Va.

PRINCE RUPERT, 79539.

SPECIAL BUGGY ANNOUNCEMENT

This is Our Celebrated

Split Hickory Special

It is the King of all Top Buggies. It is made the best that skilled labor and money can make it. We send it anywhere on

30 Days Free Trial

A similar buggy not as good would cost at least \$75.

\$50

We have so extensively advertised

and it has had such a wonderful sale everywhere that we find, from our mail, some people seem to be under the impression we only make this one particular Buggy. We beg to announce to the readers of this paper that

We Manufacture Over 100 Styles of Split Hickory VEHICLES

and sell them all direct from our factory to the user at factory prices. This line comprises Buggies, Surreys, Phaetons, Doctor's Phaetons, Stanlones, Driving Wagons, Road Wagons, Platform Spring Wagons, Delivery Wagons, Road Carts and a complete line of all styles of Harness. Every vehicle we sell is a Split Hickory Vehicle and has many points of merit not found in other vehicles.

We sell them all on

30 Days Free Trial

Our reputation for fair dealing

is unquestionable and our

Two Years Guarantee goes with every vehicle we sell.

This is our \$37.50 Split

Hickory Top Buggy, not

as good as the Split Hickory Special, but a world better

at the price we ask for it.

This is our Split Hickory

Extension Top Buggy, not

complete in every detail,

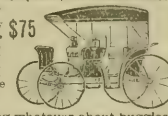
and, taking into consid-

eration the quality and

the fact it is a Split

Hickory Vehicle, the price

\$75 is wonderfully low.



We do not attempt to make a buggy for around \$25 simply because any fair minded person who knows anything whatever about buggies knows that a buggy that is worth anything cannot be produced for that price. Split Hickory Running Gears and Wheels are all made of straight grained Split Hickory, NOT SAWED. Write for our FREE 136-page Catalog, which tells all about Split Hickory Vehicles and gives description and prices of our full line of Harness.

The Ohio Carriage Mfg. Co., (H. C. PHELPS, President.)

5410 Sixth St., Cincinnati, Ohio.

put two good tablespoons of butter, one teaspoon of mustard, pepper and salt to taste with a dash of red pepper, pour over this enough of the water in which the meat was boiled to about cover and sprinkle flour over it and put on the top crust, bake to a nice brown and serve hot.

BAKED CUSTARD.

Six eggs beaten very light, separating the whites from the yolks. Scald one quart of new milk and put six tablespoons of sugar in it and a pinch of salt, pour it over the yolks of the eggs and set it aside to cool. Season with nutmeg and put it into cups or a dish and set them in a pan of water and put in the stove to bake slowly until the custard is well set, then take it out and spread the meringue made of the whites of the eggs and five tablespoons of sugar and seasoned with bitter almond or vanilla over it and brown slightly.

BOILED CUSTARD.

Eight eggs, save five of the whites and beat the others with the yolks. Scald two quarts of milk, sweeten with eight tablespoons of sugar, pour it over the yolks and return it to the fire (put a few blades of mace in the milk when you first put it on the fire.) Return this to the kettle and let it come to a boil. I sometimes put in about three teaspoons of arrow root or corn starch to make it thicker. While it is boiling hot beat the five whites which you saved, add a little sugar, and a few drops of seasoning and drop them in spoonfuls over the custard. When it is all thoroughly cold put a

SUNNY HOME HERD OF

ABERDEEN-ANGUS CATTLE.

BARON ROSEBOY 57666 by the world famous

GAY BLACKBIRD heads the herd.

Females by such noted sires as Gay Blackbird, 14443, (sire of the highest priced American bred Angus bull), Ermon 18171, (by the champion sire of females Royal Eric), Eulales Eric 15568, (2nd prize yearling bull at World's Columbian), Beau Bill 13637 (champion of the West for two years), Baron Ida 26184 (champion at N. Y. State Fair 1898), Baronet of Advia 1226 (by the "Judge" champion of the world).

Families represented in the herd are Coquette, Queen Mother, Nosegay, Westertown Rose, Old Rose of Advia, Violet, etc. We claim for our herd as good breeding as any herd in America. The individual animals in the herd have been selected with the one aim "quality" in view. Come and see, or write your order and let us guarantee a first-class animal.

Shipping point and depot, Fitzgerald, N. C., on D. & W., 24 miles S.-W. of Danville, Va.

A. L. FRENCH, R. F. D. 2, Byrdville, Va.



... REGISTERED ...

ABERDEEN ANGUS BULLS

of servicable age at a bargain.

Shepherd Pups the best of the breed at \$2.50 each. Come and see or write. **W. P. ALLEN, Prop. of Glen Allen Stock Farm, WALNUT HILL, VA**

SPECIAL BARGAINS IN HOLSTEIN-FRIESIANS.

From a few months to 1 year old, from dam that are large producers, and with strong, official backing on both sides. The sire is half the herd; it is important that you get the right one. We have that kind, and our prices are no higher than others are asking.

LARGE ENGLISH BERKSHIRES, by such sires as Manor Faithful Imp., Essau Princess of Filston, by Essau Imp., Fancy Duke, a double G. son of Loyal Berks. Address

URY STOCK FARM,

THOS. FASSIT & SONS, Sylmar, Md.

preserved cherry, or a dab of fruit jelly on each spoon of the whites. Eat with sponge cake.

FROZEN CUSTARD.

Scald four quarts of fresh milk and pour it over the well beaten yolks of six eggs. Sweat with four cups of sugar in which you have rubbed two tablespoons of corn starch. Return it to the fire and let it cook thoroughly. It is always best to cook milk in a double boiler. I have no double boiler so I set the bucket in a pan of water and it does just as well. Beat the whites very light and pour the boiling hot milk over them and put it into the freezer. Season with vanilla or lemon and freeze. When it is so hard the dasher will not move take the dasher out and put the top back and continue to turn it for ten minutes more, then pack and let it set for an hour or two to ripen.

LEMON OR ORANGE EXTRACT.

I have found that the lemon and orange seasoning is much better when made at home and it is easily done. Have bottle with a tight fitting stopper and keep it half full of alcohol, into this put the thin outside rind of the oranges just whenever you eat one. Be careful not to shave off any of the white inside skin, this is bitter. When you get into the habit you will find it easy and that your extract bottle is never empty. So when you make lemonade you will save the yellow rind of the lemons and put them into another bottle of alcohol. This keeps perfectly and is pure, stronger and better than anything you can buy.

CARAVAN.

POCKET MANUAL OF PLANT DISEASES.

Our well known advertiser, Mr. James Good, of Philadelphia, issues a very handy little pamphlet of the above title, and is circulating it free. It is gotten up primarily in the interest of his celebrated Whale Oil Soap, but the information given about the various diseases of fruit trees, etc., make it well worth having.

ALL ABOUT DUST SPRAY.

This is a comprehensive treatise on the subject from both a practical and scientific standpoint, and is issued by the Dust Sprayer Mfg. Co., of Kansas City, Mo., who are advertising their machine in this paper. Our orchardists and fruit men are invited to look up this ad and send for the pamphlet and see the advantages accruing from dust spraying.

We have the following from W. E. Shipley, breeder of pure bred Hereford cattle and Shropshire sheep, Valle Crucis, N. C.:

"I have used Zenoleum as a dip for my sheep and as a spray on my cattle, and found it very effective. It cleans up lice wherever it goes."

Local agencies and complete repair stocks everywhere

DEERING HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

..ELMWOOD NURSERIES..

—WE ARE GROWERS AND OFFER A FINE ASSORTMENT OF—

Apples, Peaches, Pears, Cherries, Plums, Apricots, Nectarines, Grapevines in large assortments, **Gooseberries, Currants, Strawberries, Horse-Radish, Asparagus, Dewberries** and an extra fine lot **Raspberries.** Splendid assortment **Ornamental and Shade Trees, Ornamental Shrubs and Hedge Plants.**

EGGS from **B. P. ROCK** and **BROWN LEGHORN FOWLS** at \$1.00 per 12. Also a few pullets and cockerels of these breeds at \$1.00 each for immediate delivery. Write for Catalogue to

J. B. WATKINS & BRO., Hallsboro, Va.

—REGISTERED—

POLAND-CHINA

Pigs from 4 to 6 months old. Boars ready for service, and young sows with pigs. Tamworth pigs 8 wks. old \$5. Prices Reasonable. Apply to

J. C. GRAVES, Barboursville, Va.

THE OAKS

offers "Show Yard" material in a

Reg. MORGAN STALLION

Rising 2 years old, mahogany bay, white hind feet, diamond between nostrils; also a Reg. **SHORTHORN BULL**, red with white switch; good enough to show in any company. Stock guaranteed as represented or can be returned at my expense.

B. B. BUCHANAN, Bedford City, Va.

SUCCESS Manure Spreader



Leads every other machine for the mechanical spreading of manure. Its superiority appears in the fact that it is a distinct improvement on the Kemp Spreader, which we still manufacture and which has been the typical spreader for 25 years. Spreads all manures of every character and condition and all commercial fertilizers in any quantity per acre, unloading the

for convenience of handling and perfection of work. Notably superior in its **Booster Feeding device**. Direct Chain **Booster Gear**, Speed Regulation and Automatic Return of Apron. Positive and dependable in all movements. Simplest in gear, lightest in draft, least chance for breakage. The driver never dismounts for any purpose but controls everything from his seat. Made in four sizes and sold under the new guarantee as to materials, workmanship and duty. Investigate fully before buying. Catalogue with valuable chapter on farm fertilizing mailed free.

KEMP & BURPEE MANUFACTURING CO. BOX 205, SYRACUSE, N. Y.

EWEELL FARM SALE.

The attention of our readers is called to the thirtieth annual sale of trotting and pacing horses, and Jersey cattle, which is to be held at Ewell Farm, on Friday, June 3rd. This is an annual breeders sale and is held jointly by the Ewell Farm, of which Geo. Campbell Brown is the manager, The Piedmont Stock Farm, of Huntsville, Ala., property of W. F. Garth, and the Cleburne Farm, of Capt. M. C. Campbell, Spring Hill, Tenn. Capt. Campbell also contributes a number of young Jersey cattle representative of his herd and about 20 of the cattle that will be offered, come from the magnificent herd of Mr. M. M. Gardner, at Nashville, Tenn. The fame of Ewell Farm which is now the home of Jno. R. Gentry, 2:00½, and of Tennessee Wilkes, 2:27, the only son of Geo. Wilkes, that has sired two better than 2:05, and McEwen, 2:18½, and Hal Brown, the promising young son of Brown Hal has been maintained throughout thirty odd years, by these annual sales and through the distribution of Tennessee pacing bred horses throughout all the United States and Canada. Mr. W. F. Garth, of the Piedmont Farm at Huntsville, is gaining in reputation every season through the many speedy young horses emanating from that source. Mr. Garth himself is a horseman of superior judgment, and his consignment to this sale contains some of the best on his farm. Some of his colts can now show a gait of 2:20 of trotting and pacing, and it is a fair prediction that they will by the time of the sale be able to show that they are of 2:10 calibre. The greatest sire of pacers in the world, Brown Hal is owned at Cleburne Farm and a number of his get are offered by this establishment. The get of Brown Hal won more money on the turf last year than any other set of pacers, and he has founded a family which is second only to that of Geo. Wilkes. The high character of sales always held at Ewell Farm will be maintained by the gentlemen interested in this one, and the general feeling of prejudice against auction sales need not be considered in this case as every one will be treated exactly alike, and there will be absolute freedom from any suspicion even of bybidding or reserving any of the animals catalogued.

The Jerseys which will be offered at this sale consist of animals bred on Tennessee foundation crossed with the most recent importations and are of the kind that will make high class dairy animals. Tennessee Jerseys have been leaders all over the United States for 20 years or more and some of the animals here offered will be of pure Tennessee breeding. For Southern buyers these cattle will be kept until October 1st, free of charge and placed on the cars without extra cost.

For catalogue of this sale write to Geo. Campbell Brown, Box L, Spring Hill, Maury county, Tenn.

LOOK AT THIS. BUY THE BEST. BLUE GRASS GRAZING FARM.

NO. 194—600 acres, about 2 miles East of Wytheville, on Pepper's Ferry road, 560 acres cleared, 40 acres in original growth timber, mostly white oak, never been culled; 440 acres in grass and meadow; land slightly rolling just enough to afford fine drainage, no steep hillsides or high hills, considerable portion comparatively level; has excellent water facilities, two large springs and two branches running through the place, one very bold spring at the barn. Good, substantial dwelling, frame building, 2 stories, 9 rooms, solid stone foundation, house in good condition, lately remodeled. Two large barns, cattle barn with capacity of 100 head, and horse barn capacity 16 head, all necessary outbuildings on place. 3 tenant houses, frame, 3 rooms each, spring at each house. Fine young orchard of between 800 and 1,000 trees, about two-thirds bearing. Farm in good condition and well fenced. One of the most desirably located and best lying farms in the county. Price \$50 per acre. NO. 230.—Building and lot on east Main street, in Wytheville, Va. Lot on corner of 3rd and Main streets, fronting about 45 feet on Main St., and running back with east side of 3rd St. 300 feet to Monroe St. Frame building, 9 rooms and brick basement with two store rooms in basement. All necessary outbuildings. Good business corner. Property will rent for \$240 per year. Price \$3,000.

All we ask is to have you look over our properties and always consult in reference to farms, the

SOUTHWESTERN VIRGINIA LAND AGENCY,

WYTHEVILLE, VA.,

C. B. THOMAS and L. F. KRENNING, Managers.

CHARTERED 1870.

MERCHANTS NATIONAL BANK

OF RICHMOND, VIRGINIA.

Capital Stock,	-	-	-	\$200,000.00
Surplus and Profits,	-	-	-	\$672,445.75

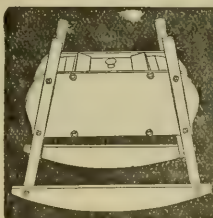
Designated Depository of the United States, City of Richmond and Commonwealth of Virginia.

Being the Largest Depository for Banks between Baltimore and New Orleans, this Bank offers superior facilities for direct and quick collections.

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The **ROCKER CHURN**

Gets the butter from the cream down to the one thousandth part. Made of tasteless wood and the churning process is entirely the result of its own motion—no machinery inside or out to get out of order or require oiling.

Its Special Advantages

are: 1—Simplest, 2—Low friction, 3—Gravity does the churning; a child can operate it. 4—Absolutely no adjustments, always ready. 5—Nothing but the churn box to clean, easily accessible. 6—Violent agitation of cream without paddles or dashers. 7—Gives the finest grade of butter of any churn on the market. **WE PAY THE FREIGHT.**

Your money back if not satisfied. In eight convenient sizes, 8 to 66 gallons. Prices right and the quality. Illustrated circulars free. **Rocker Churn Mfg. Company, Forsyth, Georgia.**

THE SOUTH SIDE CARRIERS.

For Strawberries, Peaches, Beans, Lettuce, Cukes, Grapes, Apples, etc., send for Catalogue and prices.

SOUTH SIDE M'FG CO.,
Petersburg, Va.

THE FIRST NATIONAL BANK. RICHMOND, VA.

Among the new advertisements to be found in this issue, is that of the "old First National" of Richmond, Va. We take pleasure in calling the attention of our readers to this advertisement as an opportunity is offered by which they can get the "saving habit" and draw interest on their deposits in a very convenient and novel way. With a million dollars capital and surplus, this bank is a veritable Gibraltar among Southern banks. Look up the ad and write the cashier for particulars.

It bites and stings and irritates your face to shave with common soaps, just as well enjoy as to dread shaving. Avoid toilet and laundry soaps for shaving. There is such a thing as a perfect shaving soap. Try William's Shaving Soap and enjoy easy shaving and luxurious after effects that no other soap can give. The J. B. Williams Company of Glastonbury, Conn., are sending a trial sample of this famous article upon receipt of a 2 cent stamp.

READY WIT.

It may seem rather trite to go back to Civil War times for a story, but all the tales of that memorable time have not been told, and as this one was a personal experience of a relative of mine I can vouch for it. I have never seen it in print nor heard anyone else tell it.

My uncle, Major Thomas Ridgely, was a surgeon attached to General Grant's staff. It was after the surrender of Vicksburg. The Union forces had entered the city and much merry-making and entertaining were going on. One night a dinner was in progress at which many Northern officers and a large number of Southern ladies were present. Many toasts had been proposed and drunk, all of them practically in honor of the successes of the Union army and the men responsible for them.

Finally one of the Southern ladies, a great beauty and noted for her intense partisan feeling for the South, arose and said, "Gentlemen, may I propose a toast?"

With natural gallantry and a little trepidation the ranking officer said, "Certainly."

"Well, then, gentlemen, I give you, 'The Southern Confederacy.'"

It was an embarrassing situation. But with hardly a moment's hesitation one of the Northern officers relieved the tension.

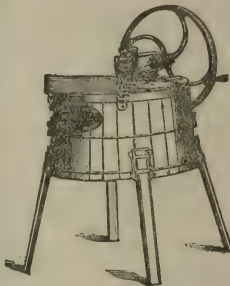
"Down with it, gentlemen," he cried; and the glasses were drained without embarrassment and without disloyalty. —Francis H. Lee, in May Lippincott's.

Mention the SOUTHERN PLANTER in writing.

Local agencies and complete repair stocks everywhere

PLANO HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.



A Washing Machine is as great a necessity in the house as a wringer

The Majestic Rotary Washer

has too many good points for explanation in an advertisement. Your name on a postal card will bring our booklet, with full particulars of our six different machines and how to get them. One of them will certainly please you. All are made with electrically welded wire hoops sunk in grooves—our patent. Being the largest manufacturers of woodenware in the world, we can make better machines for the money than any one else. If you want a machine that washes, buy one of ours.

THE RICHMOND CEDAR WORKS, Richmond, Va.

DeLoach Saw Mill

Special for the Man with Light Power and Heavy Timber.
Cuts 2,000 to 10,000 Feet per Day. 4 to 20 h. p.



This Pony Mill is especially adapted to the use of threshermen who have engines, enabling them to secure profitable all winter employment when the threshing season is over.

We Make All Styles

Saw mills from smallest to largest capacity. A great exclusive feature in the De Loach Variable Friction Drive.

Our advantages in cheap Southern labor and superior and low-priced lumber, iron and steel enable us to make the best saw mills for least money of any manufacturer in the world.

Our Mill Machinery Line includes Shingle Mills, Planers, Edgers, Trimmers, Stave Mills, Lath Mills, Water Wheels, Portable Grinding Mills, Shanties, etc. Ask for Saw Mill and General Machinery Catalogue. Mailed free for the asking.

De Loach Mill Mfg. Co.,
Box 600 Atlanta, Ga.

ORGANIZED 1832.

ASSETS, \$932,050.00.

Virginia Fire and Marine

Insurance Company, of Richmond, Va.

Insures Against Fire and Lightning.

All descriptions of property in country and town, private or public, insured at fair rates, on accommodating terms.

AGENCIES IN EVERY TOWN AND COUNTY.

W. H. PALMER, President.

W. H. McCARTHY, Secretary.

BILTMORE FARMS, - Biltmore, N. C.

Headquarters for GOLDENLAD JERSEYS,

Also Get of TREVARTH and GEN. MARIGOLD. ❀ ❀ ❀

GOLDEN LAD'S SUCCESSOR. First and sweepstakes over all at the Pan-American Exposition, the champion JERSEY BULL OF AMERICA, and out of Golden Ora, our great prize-winning cow, both born and developed on these Farms, is among our service bulls.

Biltmore Jerseys are a combination of large and persistent milking qualities with an individuality that wins in the show ring.

SPECIALTY. Write for descriptive circular of the best lot of young bull calves ever offered, both for breeding and individuality. They are by noted sires and out of large and tested selected dams. Many of these calves are fit to show and win in any company.



BILTMORE POULTRY YARDS.



SPECIALTY. Write for descriptive circular of eggs from our prize-winning pens. Over 50 yards to select from, made up of the winners at the leading shows for the last two seasons. If you want winners you must breed from winners.

Headquarters for the best IMPORTED ENGLISH BERKSHIRES.

APPLY TO BILTMORE FARMS, BILTMORE, N. C.

EGGS FOR HATCHING

The Imperial Fruit and Poultry Farm



Is now booking orders for eggs for hatching from strictly pure, high-class poultry, at \$1.00 for 15 eggs, except duck eggs, which are \$1.00 for 13.



BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS,
SINGLE COMB WHITE AND S. C. BROWN LEGHORNS,
SILVER LACED AND WHITE WYANDOTTE,
MAMMOTH PEKIN DUCKS.

Satisfaction Guaranteed. Write your name and address plainly.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

COW GIVES A HUNDRED POUNDS OF MILK A DAY.

A Herd of Holsteins at the World's Fair Out for a Record.

Average Cow's Milk Weighs 3,000 Pounds
One Cow's Record for a Year is 30,182 Pounds—Calf Sells for \$4,000.
The Breed's History Dates Back 2,000 Years.

St. Louis.—Calmly chewing their cud in comfortable stalls in a model barn on the World's Fair grounds at St. Louis are 15 big Holstein cows on which the Holstein Friesian Association pin their faith and are confident that they will demonstrate the superiority over all other breeds of cattle.

In other stables near by are representative herds of Jerseys, Devons, Brown Swiss and Shorthorns and the same degree of confidence is evinced among the followers of each breed.

E. B. Von Heyne, who has earned an enviable reputation as a developer of milch cows, is in charge of the Holsteins at the World's Fair. He thinks this breed is the best in the world and he says that the present test will surely settle the question and demonstrate that the Holstein as a dairy cow especially, as well as for general purposes, has no equal.

"Yes," said Mr. Von Heyne as some of the Jerseys were driven by, "the Jersey cows won in Chicago, but then they had no competition. The Holsteins did not participate in that test but this time it will be different. We are here to win that prize," and the superintendent leaned back in a self-satisfied manner as though it were all over but the shouting.

"The Holsteins," said Mr. Von Heyne, "have been bred in Holland and the Friesian Islands for more than 2,000 years, and he thinks that in that country the science of dairying is as far advanced as in any other country of the world.

The Holstein cow is angular of frame, rawboned and big. The average weight is about 3,000 pounds. The Holstein colors are pronounced and unmistakable—the black and white mottled. The good cow is never fat. Mr. Von Heyne explains this by saying that the ideal cow is a machine and that her mission is to assimilate her food and convert it into milk. The milch cow is not bred for the flesh.

"A good Holstein cow is never fat," said Mr. Von Heyne. "She is a machine for the manufacture of milk—not tallow."

The first importation of Holstein cattle to America was made in 1621. Other importations were made at later dates, but no attempt was made to keep the breed pure until 1861 when W. W. Cheney, of Belmont, Mass., brought over a herd. Since then many other herds have been imported and there are as many pure blood Holsteins in the United States now as there are Jerseys.

"While I confidently expect to triumph over the Jerseys and all other

The Proof of the Planter is the Stand of the Crop.



FARQUHAR KEYSTONE CORN PLANTER

Plants corn, beans, peas, etc., without cracking a grain or missing a hill. Will work wherever a plow will run. Drops seed in drills, or in hills at any distance. Distributes any kind of fertilizer in any quantity desired, with absolute safety from injury to seed. Strong steel frame gives lightness and durability. Write for new 1904 catalogue describing this and other farm implements and machinery.

A. B. FARQUHAR CO., Ltd., York, Pa.



SPRAY NOW

and save your fruit and vegetables. CATALOGUE and SPRAYING CALENDAR giving FORMULAS, free for the asking.

Our Pumps used by Virginia and North Carolina Agricultural Departments

Pumps, Wind Mills, Rams, Fencing, Gasoline Engines, etc.

Sydnor Pump and Well Co., Inc.,
BOX 949,
RICHMOND, VA.

GENUINE OLIVER CHILLED STEEL BEAM PLOWS AND REPAIRS.



This far-famed and world-renowned Plow we guarantee you is worthy of all that is said in praise of it. Wood Beam also furnished. Write for large Illustrated Catalogue.

We are general distributors of the GENUINE ONLY.

Farm Tools and Supplies

Large Illustrated Catalogue for 1904 just issued, embracing Hand, Horse and Power Labor-Saving Implements.

You must save as well as make money.

Write for this FREE catalogue at once.

NORFOLK FARM SUPPLY CO.

Implements
Poultry Supplies

Fertilizers
Wheel Material

41 to 51 Union Street,

NORFOLK, VA.

INCUBATORS AND BROODERS.



Season is at hand. HEN PRODUCTS higher than ever. Our prices low. Write for Free Catalogue.

breeds here at the World's Fair, I want to say that we did not consider it necessary to go to the length that the Jersey people did. They selected the choicest specimens from all over the United States. They assembled their cows at Jerseyville, Ill., near St. Louis and have kept them in training for a year.

"When the Holstein Friesian Association decided to enter the contest I went out into one county in New York State and bought some of the cows. The remainder will come from Wisconsin. They are just good, average, pure blooded Holsteins the same as may be found in any first-class dairy farm. There is no need to spend time in acclimating Holsteins. They do well in Russia and equally as well in South Africa or any climate in the world.

"The milk of the Holsteins is not quite as rich as the milk of the Jerseys. But it more than makes it up in the quantity. A Holstein cow at the International Agricultural Exhibition at Amsterdam from September 7, 1883, to June 7, 1884, produced 14,223 pounds of milk. The record of Pieterje II. for one year is 30,182 pounds of milk.

"Mercedes Julipes Pieterje, a cow I developed myself, produced as a six-year-old in an official seven-day test 29 pounds and 3 ounces of butter.

"Sadie Voll Concordia, the present world's champion, not alone among the Holsteins but of all breeds, produced in an official test in seven days 697 pounds of milk which yielded 30 pounds and 10 ounces of butter. This test was made in New York State at the Cornell Experiment Station in 1903. This cow at the age of 13 years sold for \$2,300. A calf from this splendid cow, at the age of four weeks, sold for \$4,000.

"Now the Holstein is not only a milk producer without an equal but she is a beef producer as well. We will compete with the Short Horns on the beef production, a thing the Jerseys would never attempt. The Holstein is the practical and economical breed of cattle for the United States and it will be proven at the test this summer."

THE ANNUAL SALE OF JERSEYS AT "LINDEN GROVE."

We take great pleasure in calling the attention of our readers and dairymen especially to the advertisement of Mr. T. S. Cooper, Coopersburg, Pa., to be found on another page. As has been his custom for a number of years, Mr. Cooper will sell to the highest bidder, May 30th, his recent importation of Jersey cattle. To describe these cattle is an impossible task on our part, as Jersey experts who have seen the herd and passed upon it seem at an utter loss for proper descriptive adjectives. It is needless to say, however, that this sale will be equal to, if not surpassing, any of his previous efforts, and that is saying a great deal.

Be sure and refer to the ad. and send for a catalogue.

Local agencies and complete repair stocks everywhere

MILWAUKEE HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

Where to Sell Your WOOL

WE ARE THE LEADING DEALERS IN THE WOOL TRADE IN VIRGINIA.

HIGHEST MARKET PRICE PAID, and no Commission, Freight, &c. charged- SACKS FURNISHED FREE. Checks remitted promptly. Correspond with us when ready to sell.

THE WALLERSTEIN PRODUCE CO., 19 & 21 So. 13th St., Richmond, Va.

References: American National Bank and Richmond merchants generally.

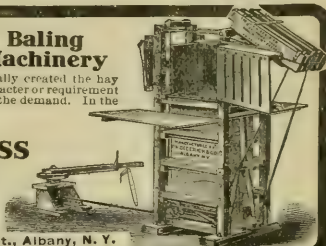
DEDERICK'S Baling Machinery

Designed and built by the man who practically created the hay shipping industry of the world. For every character or requirement of work, there is a Dederick Press to meet the demand. In the

COLUMBIAN BOX BALING PRESS

the disadvantages of the old-fashioned box press are removed by the invention of a new pressing power. Send for free catalogue with full detailed description of baling machinery of all kinds.

P. K. DEDERICK'S SONS, 87 Tivoli St., Albany, N. Y.



Masters Rapid Plant Setter

The only hand mechanical plant setter on the market. Avoids stooping and the drudgery of setting out Cabbage, Tobacco, Tomatoes, Sweet Potatoes, Sugar Beets, etc.

Sets Plants in Water

or liquid fertilizer at just right depth and so they stand erect. At its best when weather is driest and hand setting means failure to grow. Assures better stand of quicker starting, better growing plants. With a little practice one man will set 8,000 plants a day.

Ask your dealer for Masters Rapid Plant Setter. If he does not handle it send us his name and we will see that you are supplied. Write for particulars. Circulars free.

Masters Planter Co., 171 South Water Street, Chicago, Ill.

IS YOUR FARM FOR SALE?

R. B. CHAFFIN & CO., (INC.) Richmond, Virginia.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

If so, flat it with us. No sale, no charge. Largest list of farms for sale in Virginia. Write for Free Catalogue.

PLANT INTRODUCTION GARDEN AND EXPERIMENT STATION.

The United States Department of Agriculture has decided to establish a Plant Introduction Garden and Experiment Station at Chico, California. Contracts for the necessary land have been closed and work has been begun on what will undoubtedly be the greatest institution of its kind in America and perhaps in the world. A beginning will be made with ninety acres but it is the intention of the Department to extend the area as the needs of the institution require. The garden will be devoted to experimental culture of the plants introduced from various parts of the world and to a careful study of plant life.

Such an institution has long been contemplated by the Agricultural Department. California was selected for its location on account of climatic conditions which admit of the culture of tender plants from the tropics and of Northern products as well. The ideal location for such an institution is that which admits of the successful cultivation of the widest possible range of products and the committee entrusted with the duty of selecting the site believe they have found it at Chico.

This committee was composed of Prof. P. H. Dorsett, Government Expert, who will have charge of the institution, and Prof. A. V. Stubenrauch, of the University of California, acting with Dr. A. J. Pieters, head of the division for seed and plant distribution. Messrs. Dorsett and Stubenrauch spent months in making a careful study of conditions affecting plant life in various portions of the State, visiting and carefully inspecting each locality likely to prove available. The decision in favor of Chico was reached sometime ago but the site selected could not be secured and another tract had to be chosen, which has now been done and the purchase consummated.

Chico is situated near the eastern border of the great Sacramento Valley, seventy-five miles north of Sacramento, the State capital, and was the most northerly point considered by the committee. Climatic conditions in California are affected but little if at all by conditions of latitude, the orange, the lemon and the olive being staple products of a district that measures fully five hundred miles north and south.

Don't rut your fields with narrow tires. Get a set of Electric metal wheels; save your horses, save your back, save repair bills and be happy. A good Wheel Sense booklet free. Address Electric Wheel Co., Box 146, Quincy, Ill.

SAVE YOUR HOGS

This can be done through my plan of treatment, which affords every swine raiser practically absolute protection against loss from disease and unthriftness. Its great and continued success for more than 25 years is indisputable proof of my claim, but to make it doubly strong, I WILL INSURE HOGS AND PAY FOR ALL THAT DIE when they are fed my remedy, under the terms of my insurance proposition.

HOG BOOK FREE

"HOGOLOGY," my book about hogs, fully explains my insurance proposition, and, in addition, contains a great fund of general information for the swine raiser, from which even the most successful will get many valuable pointers. Remember, this book is the work of a specialist; one who has spent a lifetime in the study of the care of hogs and the treatment of their diseases, hence is practical and useful. It will be sent FREE to any one who mentions the Southern Planter when asking for it.



Building owned and occupied by Dr. Jos. Haas.

Don't Wait Order a supply of Haas' Hog Remedy, and get started on the road to success, for there is no other way so sure, so safe or so inexpensive, results considered. Prices for the remedy: 25-lb. can, \$12.50; 12½-lb. can, \$6.50, prepaid; packages, \$2.50, \$1.25, and 50 cents. None genuine without my signature on package or can label.

JOS. HAAS, V. S.,
Indianapolis, Ind.

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ACTS LIKE MAGIC

Thirteen years' successful use has proven Manfield's MAGIC STOCK FOOD to be absolutely the best animal Tonic and system Regulator for HORSES, CATTLE, SHEEP and HOGS. It contains all the necessary requirements. It is purely vegetable, and is guaranteed to be safe and effectual, or money refunded. A hard winter on stock leaves them in a run down condition, and in such cases Magic Food is necessary. Stock and Poultry raising cannot be entirely successful without Magic Food. MAGIC FOOD is limited. Get the genuine, avoid substitutes.

Every Farmer and Stock Owner who sends his address to the Magic Food Co., Chattanooga, Tenn., will receive free by mail a valuable book on the management of Stock and Poultry, and three nice colored pictures, without advertisements and well worth framing.

Magic Poultry food will KEEP THE FLOCK HEALTHY, and make hens lay. Sold by 3,000 dealers in 33 States.

If your dealer does not keep it, write to us.



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Can save you Money, save your Horse,
save your Mule or save your Cow. عربي

Home Treatment for Horses and Cattle.

Sick and Lame Horses Made Well. Weak Cows Made Strong. Better Breeders and Milkers.

Book for the asking of your druggist or dealer, or send to

DR. A. C. DANIELS, 172 Milk St., BOSTON, MASS.

Mention the PLANTER.

DON'T BUY GASOLINE ENGINES UNTIL YOU HAVE INVESTIGATED "THE MASTER WORKMAN."

A two-cylinder gasoline engine; superior to all one-cylinder engines. Costs less to buy and less to run. Quicker and easier started. Has a wider sphere of usefulness. Has no vibration; can be mounted on any light wagon as a portable. Weighs less than half of one-cylinder engines. Give site of engine required. Sizes 1½, 2, 2½, 4, 5, 6, 8, 10 and 15 horse power. Mention this paper. Send for catalogue. THE TEMPLE PUMP CO., Meagher and 15th Sts., CHICAGO.



.....LAIDLAW'S.....

Concentrated Tobacco Powder, Sheep Dip and Cattle Wash.

A SURE CURE FOR THE EXTERMINATION OF

Scab and Tick in Sheep.

Lice on Horses and Cattle.

Lice on Hogs.

Mange on Dogs.

Kills all vermin. Allays all irritation. Promotes growth of wool. Makes animal feel well and take on flesh.

AB-OLUTELY NON-POISONOUS.

PRICES: 5-lb. bag, 75c.; 10-lb. bag, \$1.25; 25-lb. bag, \$2.60; 50-lb. bag, \$5.00.

One 50-lb. bag makes 500 gallons Dip for Scab, and 1000 gallons for Tick, etc.

SOLE MANUFACTURERS,

LAIDLAW, MACKILL & CO., Limited, Richmond, Va., U. S. A.

To be Had at all Leading Drug Stores.

MONEY SAVED HERE.

A few articles quoted below will convince you that for cash you can live cheaply by dealing with us. We have a complete line of groceries, feed and liquors. Should you need anything not quoted here, write for prices. These prices are subject to changes in the market. We charge 10c. per gallon extra for jugs. Our goods guaranteed to be first-class. Goods delivered free of drayage to any depot. All prices f. o. b. here.

Granulated Sugar, per lb.....	4½c.	Good Oats, per bushel.....	50c.
Arbuckle's Coffee, per lb.....	11c.	Best Timothy Hay, per ton.....	\$19.00
Best meal, per peck, 20c.; or, per bushel.....	70c.	No. 1 Mixed Hay, per ton.....	18.00
Pride of Richmond Flour, per sack, 35c.; or, per bbl.....	\$5.40	No. 1 Clover, per ton.....	16.00
Daisy Flour, per sack, 33c.; per bbl.....	5.25	Bran, per ton.....	23.00
Good Green Coffee, per lb.....	9c.	Ship Stuff, per ton.....	24.00
Best Salt Pork, per lb.....	10c.	Old Crown Rye, 5 years old, per gallon.....	3.00
Good Salt Pork, per lb.....	7c. & 9c.	Old Keystone Rye, 4 years old, per gallon.....	2.50
Best Butcher's Lard, per lb.....	10c.	Old Excelsior Rye, 3 years old, per gallon.....	2.00
Good Lard, 3 lbs. for.....	25c.	Old Capitol Rye, 2 years old, per gallon.....	1.50
Green, Black and Mixed Tea, per lb.....	35c., 40c. & 50c.	Pure N. C. Corn Whiskey, 2 years old, per gallon.....	2.00
Best Cheese, per lb.....	15c.	Pure N. C. Corn Whiskey, 5 years old, per gallon.....	2.50
Best Cut Herrings, 3 dozen for.....	25c.	Duffy's Malt Whiskey, per bottle.....	80c.
Best Roe Herrings, per dozen.....	18c.	O'Grady's Malt Whiskey, per bottle.....	75c.
Heavy Bright Syrup, per gallon.....	35c.	Apple Brandy, 3 years old, per gallon.....	2.50
Best Genuine N. O. Molasses, per gallon.....	60c.	Virginia Apple Brandy, 5 years old, per gallon.....	3.00
Good Dark Molasses, per gallon.....	25c. & 35c.	Geneva Gin, 3 years old, per gallon.....	2.00
Soaps, 8, 7, 6, 10 and 11 bars for.....	25c.	London Dock Gin, 5 years old, per gallon.....	2.50
Large Cans Tomatoes, per can.....	7c.	Wilson Whiskey, per bottle.....	1.00
Large Cans Table Peaches, per can.....	12c.	Buchu Gin, for kidneys, per bottle.....	1.00
3 Plugs Grape, Peach, Apple, Plum, Reynolds' Sun		Catawba Wine, per gallon.....	50c.
Cured Tobacco for.....	25c.	Blackberry Wine, per gallon.....	50c.
Best Lemons, per dozen.....	12c.	California Sherry Wine, per gallon.....	1.00
Good Corn, per bushel.....	65c.	(Sacks for corn and oats, 5c. extra.)	

Remittance must accompany all orders. Send P. O. or Exp. Order, Reg. Letter, for what you want.

J. S. MOORE'S SONS, Inc.,

No. 1724 East Main Street,
RICHMOND, VA.
Phone 507.

UTTERLY IMPOSSIBLE.

Uncle Daniel Harmon's pastor was a vigorous temperance advocate. For years and years he had preached to the old man about the virtues of total abstinence, but had never succeeded in convincing his parishioner that it was wisest and best for him to part company with the "cussid stuff." At last one day, after long persuasion, the minister managed to extract from the old man a promise that he would not drink another drop. The Saturday night following the day on which this promise was obtained the parson met Uncle Dan on the street with a basket of groceries in one hand and a tell-tale "little brown jug" in the other.

"What you got in dat jug, Uncle Dan?" asked the parson.

"It's liquor!" exclaimed the old man; "it's liquor. It sho' is liquor, an' I ain't gwintah lie 'bout it."

"Whose liquor is it?" inquired the minister.

"It b'longs to me an' Deacon Walkah—me an' Deacon Walkah, sah," said Uncle Dan, looking the questioner straight in the eye.

"Bruddah Harmon, you ain't forgot yo' promus so soon, is you?" asked Rev. Mickins. Uncle Dan made no reply.

"Set dat jug down—set it right down," commanded the parson, "an' po' dat whiskey right out on de groun'!"

The old man put the basket and the jug down. Then, straightening up, he said,—

"Bruddah Pastah, you knows I tries to 'bey you in ev'y'ting—I sho' do; but I don't think you'd want me to follah yo' ordahs in dis mattah ef I tol' you it would cause me to treat Deacon Walkah wrong."

"I don't see," protested the preacher, "how you'd be treatin' Deacon Walkah wrong by po'in' out dat liquor."

"Ain't I done tol' you," explained Uncle Dan, "dat me an' Deacon Walkah went 'in cahoots in buyin' dis liquor—dat ha'f uv it b'longs to him an' de uddah ha'f b'longs to me?"

"Dat's so," said Rev. Mickins, "dat's so, Uncle Dan; well, den, you po' out yo' ha'f—I reckon you kin do dat!"

"Dat's onpossible," said Uncle Dan. "dat's onpossible; I can't po' out my ha'f 'dout po'in' out Deacon Walkah's ha'f."

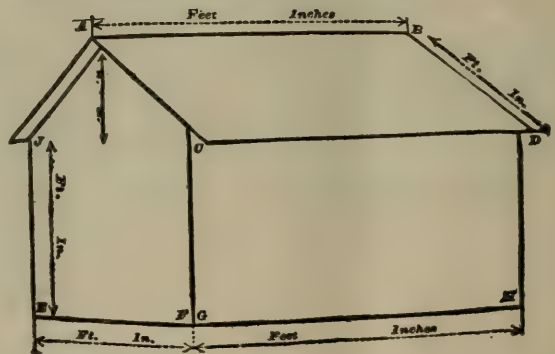
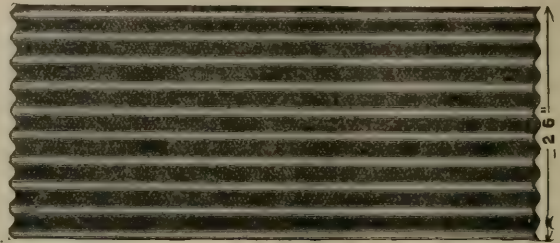
"How's dat?" asked the preacher.

"Cause," said the old man, "Deacon Walkah's ha'f's on top, an' mine at de bottom!"—Silas Xavier Floyd, in May Lippincott's.

Valuable pamphlet "Diseases of Sheep and How to Cure Them" sent free by mail to subscribers to this paper on receipt of twelve names of sheep-owners by William Cooper & nephews, 142 Illinois street, Chicago, Ill.

ROOFING OF ALL KINDS.

Painted Corrugated Roofing, Painted V. Crimp Roofing, Roofing Tin in boxes or rolls, Tarred Roofing Felt, Perfected Granite Roofing. & &



Fill in the Dimensions in the diagram, cut it out, mail it to us and we will quote you price on a sufficient quantity of whichever kind of roofing you desire.

We also carry a complete stock of Conductor Pipe and Gutter, Solders and Metals; Galvanized and Black Sheet Iron, etc.

Southern Railway Supply Company,

1323 East Main Street,

RICHMOND, VIRGINIA.

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Where an established reputation warrants continued confidence. The name of LUMSDEN on anything in the JEWELRY or SILVERWARE line is a STANDARD of QUALITY.

**FINE GOLD AND DIAMOND JEWELRY,
STERLING SILVERWARE AND CUT GLASS.**

SIX SOLID STERLING SILVER TEA SPOONS, \$3.30. Write for our catalogue; it contains many articles on which we can save you money.

C. LUMSDEN & SON, Established 1835, 731 East Main Street, Richmond, Va.

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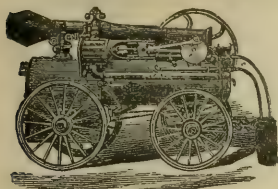
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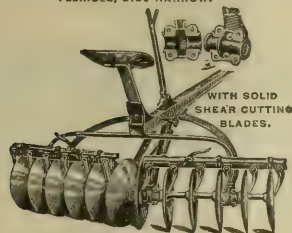
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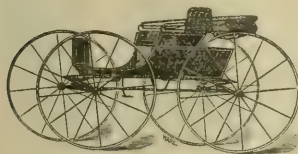


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WITH SOLID
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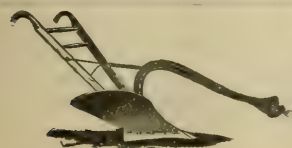
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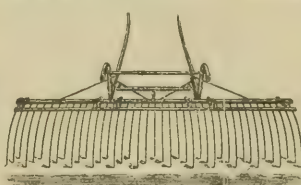
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FISH and WEBER WAGONS.



FIREFLY GARDEN PLOW.

A full stock always on hand, and prompt shipments guaranteed. South Bend, Dixie and Farmer's Friend Plows and repairs. The Hancock Rotary Disc Plow, warranted to go in the ground where all others fail.

Hocking Valley Feed Cutters, Cyclone Shredders, Smalley Feed Cutters, Dain Corn Cutters. Equal to any made. Staver Buckeye Feed Mill and Horse Power Combined.

Whitman All-Steel, full circle Hay Presses, George Ertel Company's full circle Hay Presses. Rapid Fire Horse Power Hay Press, for one horse, a good, cheap press. Will put up from 150 to 200 bales a day. The well known Minnick Hand Baling Presses.

Hocking Valley Wine and Cider Mills. Hard wood rollers. The best mill made.

Hocking Valley Corn Shellers, for hand or power. Smalley Electric Pole and Wood Saws, for steam or horse power, Peerless Engines and Saw Mills always in stock.

Several good second-hand Engines and other second-hand machinery for sale. "Pittsburgh Perfect" fencing, electrically welded. Barb Wire, Plain Galvanized Wire, Baling Wire, and Bale Ties, Continental Disc Harrows, Buffalo Pitts and Lean Spoke Harrows.

John Deere and Continental Disc Cultivators, Corn Planters, etc. A full line of Planet Jr., Garden Tools. Your correspondence is solicited

THE SPANGLER CORN PLANTER WITH AND WITHOUT FERTILIZER ATTACHMENT.

The Spangler Planter has a side gear which is convenient and practical. The quantity of corn to be dropped can be regulated instantly without changing the quantity of the fertilizer sown, or the quantity of the fertilizer can be changed without affecting the corn dropping, and either can be discontinued in an instant and not sow at all.

Hoosier Single and Double Row Planter, made entirely of steel, except handles—a very durable machine—Black Hawk, and Jobs Deere single and double row planters.

We will mail copy of our new catalogue upon application.

THE WATT PLOW CO.,

15th and Franklin and 14th and Main Streets, - - RICHMOND, VA.



COMBINED CULTIVATOR, AND HORSE HOE.

FARQUHAR'S CATALOGUE.

Our well-known advertisers, The A. B. Farquhar Co., York, Pa., send us their 1904 catalogue. This company was one of the victims of the Baltimore fire, inasmuch as all the first plates of the catalogue were destroyed. Hence the delay in getting it out. Of course, all of our readers should have this catalogue. It contains full description of all the implements made by this firm. Thousands of our readers are patrons of this firm, and thousands of others should be. Don't forget to send for the catalogue. It's well worth having.

THE WELCOME WAG.

A gentleman was walking with his youngest son at the close of the day and in passing the cottage of a German laborer the boy's attention was attracted to the dog. It was only a common cur, but the boy took a fancy to him, and asked his parent to buy the animal for him, promising to take good care of it.

Just then the owner of the dog came home and was demonstratively met by the dog. The gentleman said to the owner:

"My little boy has taken a fancy to your dog and I should like to buy him. What do you ask for him?"

"I can't sell dat dog," said the German.

"Look here," said the gentleman, "that is a poor dog, but as my boy wants him I will give you a sovereign for him."

"Yaas," said the German, "I knows he is very poor dog, and not vort much; but der ish van leetle ding mit dat dog I can't sell—I can't sell de vag of his tail ven I comes home at night."

The May Century's features of war interest will be "Unhappy Korea" and "Korea, the Bone of Contention," both from authorities. The Rev. Arthur Judson Brown, D. D., author of "The New Era in the Philippines," is secretary of the Board of Foreign Missions of the Presbyterian Church. He has traveled in Korea and knows the conditions whereof he writes, conditions which may well make Korea unhappy. Homer B. Hulbert, who contributes the account of "Korea, the Bone of Contention," will be remembered as author of "The Sign of the Junma" and narrator of "In Search of a Siberian Klondike." He has been editor of the Korea Review of Seoul for some years and has made a study of Korean history, ethnology, etc. His article will discuss the probable fate of Korea in the event of either Russian or Japanese victory; and will touch upon how the result of the war must affect America and American interests.

"Set 40 acres of cabbage plants last year with four of your settlers—never had such a good stand before." Read Masters Planter Co.'s ad.

Your money back

If you are not satisfied

DO YOU SUPPOSE that a company with a capital of \$500,000.00, paid in full, and the proud reputation of 36 years of continuous success, would make such an offer and not carry it out to the letter?

DO YOU SUPPOSE we would jeopardize our standing with the public and our chances of still greater success by failing to fulfill any promise we make?

DO YOU SUPPOSE we would make such an offer if we did not have the utmost confidence in the satisfying quality of our goods?

WE KNOW we can please and save you money, for HAYNER WHISKEY goes direct from our distillery to you, with all its original richness and flavor, carrying a UNITED STATES REGISTERED DISTILLER'S GUARANTEE OF PURITY and AGE and saving you the big profits of the dealers. That's why it's best for medicinal purposes. That's why it's preferred for other uses. That's why we are regularly supplying over a quarter of a million satisfied customers. That's why YOU should try it.

Direct from our distillery to YOU

Saves Dealers' Profits! Prevents Adulteration!

HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

4 FULL \$3.²⁰ EXPRESS
QUARTS PREPAID

We will send you FOUR FULL QUARTS of HAYNER'S SEVEN-YEAR-OLD RYE for \$3.20, and we will pay the express charges. When you receive the whiskey, try it and if you don't find it all right and as good as you ever drank or can buy from any body else at any price, then send it back at our expense and your \$3.20 will be returned to you by next mail. How could an offer be fairer? We take all the risk and stand all the expense, if the goods do not please you. Won't you let us send you a trial order? We ship in a plain sealed case; no marks to show what's inside.

Orders for Ariz., Cal., Col., Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash. or Wyo., must be on the basis of 4 Quarts for \$4.00 by Express Prepaid or 20 Quarts for \$16.00 by Freight Prepaid.

Write our nearest office and do it NOW.

THE HAYNER DISTILLING COMPANY

ATLANTA, GA. DAYTON, OHIO ST. LOUIS, MO. ST. PAUL, MINN.
156 DISTILLERY, TROY, O. ESTABLISHED 1866.



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Extending from Cincinnati and Louisville, and

THROUGH ITS CONNECTIONS....

THE BIG FOUR SYSTEM, from Chicago, St. Louis, Peoria, Indianapolis, Sandusky and Cleveland;

THE OHIO CENTRAL LINES, from Toledo and Columbus;

THE CINCINNATI, HAMILTON & DAYTON, from Detroit, Toledo, Lima and Dayton—

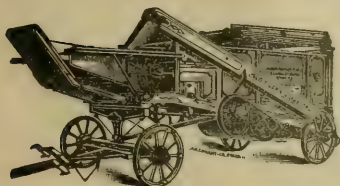
FORMS THE MOST DIRECT ROUTE.

And from Five to Twelve Hours the Quickest

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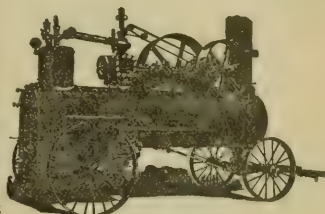
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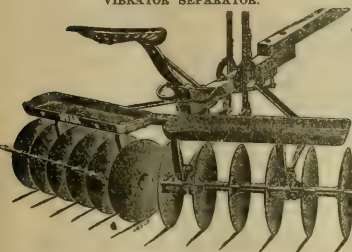


VIBRATOR SEPARATOR.

THE BEST THRESHING OUT-FIT for a thresherman to buy is the Ajax Threshing Engine and Farquhar Separator Engines from 1 h. p. up. Easy steamers develop more than rated horse power. Have driver's seat, foot brake and two injectors. Separators of all sizes with latest improvements, thresh and clean all kinds of grain perfectly.



PORTABLE ENGINE.



DISC HARROWS with or without solid steel weight boxes. Most durable bearing with oil reservoir directly over axle free from dust and clogging. Anti Friction Rollers. Adjustable Seats. Easy to handle. Light in draft.

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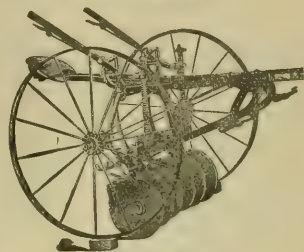
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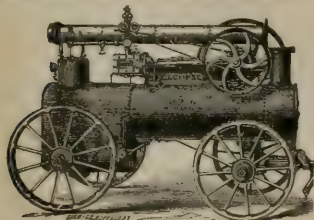


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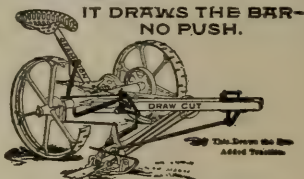
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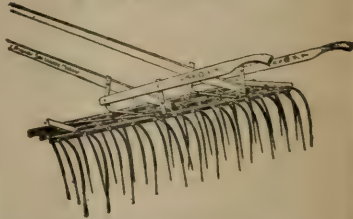
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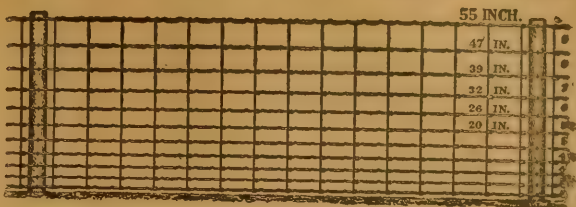


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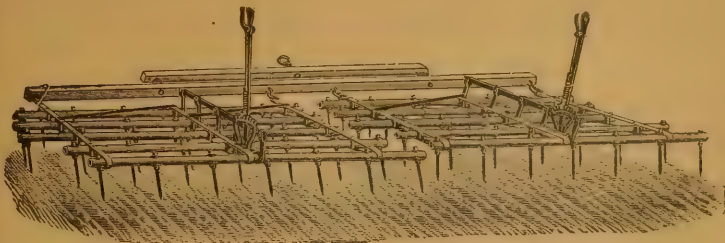


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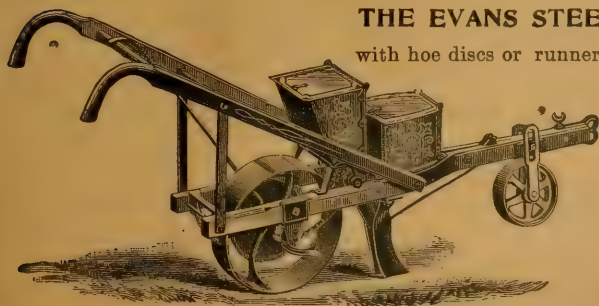
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J. F. JACKSON, Editor and General Manager.

Vol. 65

JUNE, 1904.

No. 6.

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Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, June, 1904.

No. 6.

Farm Management.

WORK FOR THE MONTH.

The cold ungenial and dry weather of which we have had to complain for now so many months still continues up to the date of this writing (19th May). This condition is not peculiar to the South but more or less affects the whole country except the Gulf States where there is a slight excess of average temperature accompanied by drouth in many places. There is every indication that we are likely to enter summer with a deficiency of soil moisture which, if not carefully provided for by keeping the fields covered with a mulch of fine soil, may result in serious damage to the crops. Those who plowed their land in the early fall will be in a much better position to conserve their crops than those who have only broken the land just previous to planting. Whilst the rainfall throughout the South has been below the normal ever since last December yet where land was plowed before that month there has been a constant though slight accretion to its moisture content which unplowed land has largely failed to be in a condition to accumulate. This once more emphasizes the importance of early fall plowing if the best chance is to be given to the crop, for whether the winter and spring be wet or dry such land will be better fitted to take care of the crop during the growing season than land left unbroken until spring.

Crop conditions throughout the country tell unmistakably of a trying winter and spring. The Government Report for May says, "The available records of the Department show for no preceding year

such uniformity of unfavorable conditions as is reported this month." The condition of the winter wheat crop is a distinctly unfavorable one. Nearly 5,000,000 acres of the land seeded in the fall has been abandoned and plowed up, reducing the area left to be harvested to very little more than 27,000,000 acres or over 5,000,000 acres less than was harvested last year. The average condition of the crop throughout the country is only 76.5 as against 92.6 last year and a ten year average of 84.2. This would indicate in conjunction with the reduction in area a reduction of at least 100,000,000 bushels in the crop as compared with last year. The seeding of spring wheat has not been a very successful one and the condition of the crop is very variable. The winter and spring oat crop of the South is likely to be a very poor one as much of the crop of winter oats was killed and the spring seeding has not done well from lack of rain and constant cold weather. Corn planting has been in progress for more than a month in this State and the fine dry weather has enabled it to be put into a good seed bed but germination has been slow from the cold condition of the soil. We are afraid stands will not be of the best. In several of the Gulf States drouth is injuring the crop materially. The stand of cotton in the more Southern States is not what we would like to see and much replanting is being done. In this State the crop is only just being planted.

Tobacco plants are reported from many sections as being small and scarce and the crop is likely to be a late one.

Irish potatoes have been much injured by the cold dry weather and the early crop promises to be smaller than usual. Those planted later are making slow growth. Grass and clover crops are of good color where standing, but a great deal of last fall's seeding was destroyed by the winter. The cold dry spring has made the growth short and late and hay crops generally are likely to be light. From the foregoing review of crop conditions as they appear at this time it will be seen that effort will be needed to supplement the fall and early spring sown crops if an average result is to be made. The wheat crop must be supplemented by an extra area in corn and the oat and grass and clover crops by forage crops of various kinds. There is yet ample time to make good all deficiencies if only effort be at once made.

The completion of the planting of the corn crop for grain should be hastened as much as possible. All highland crops ought to have been planted before the end of May, but if not already planted should be got in before the 10th June. Where corn is planted on high land during this month we would advise the planting of Golden Dent or Improved Leaming, two excellent varieties of yellow corn which will mature in much less time than any of the white varieties. We had a splendid sample of Golden Dent brought to our office last year which was planted on the 4th July. The whole crop matured fully and cured finely. On the river low grounds white varieties may be planted up to the 20th of the month, but the sooner they are got in the better they are likely to do and mature. The main work of the month should be the cultivation of the crop. In our last issue we wrote fully upon this, and to that issue refer our readers. Two points should be constantly borne in mind. Cultivate frequently and cultivate shallow and level. If these requirements be observed the roots of the plants will soon fill all the space between the rows and search out all the plant food which is available. The corn plant is a great forager for food and its root system a wide spreading one. If the crop is not making such growth as is desired it may be helped by intercultural fertilization that is by applying fertilizer during the cultivation. For this purpose a quick acting fertilizer should be used, one in which the nitrogen is in the form of a nitrate already, like nitrate of soda, with the addition of acid phosphate and on sandy land some potash. A good mixture for this purpose would be 100 pounds of nitrate of soda, 200 pounds of acid phosphate and 25 pounds of potash per acre. Apply this in the

middles between the rows and not close to the stalks and work it in with the cultivator. The roots will soon find this and it will largely help in the making of ears rather than stalk. The practise of sowing cow peas in the corn crop at the last working is one highly to be commended as tending to the constant improvement of the land and making feed for hogs and stock. Cow peas, however, are scarce and dear this year and we are afraid that few will be sown, indeed we expect the pea crop to be very largely curtailed from this cause. We have had scores of enquiries from parties wanting cow peas which we have been unable to satisfy. Soy beans may be planted in the place of the peas and will answer the same purpose though they will not make so heavy a crop usually. A mixture of crimson clover and sapling clover may also be sown. This will make a winter cover for the land and much grazing during the early spring. If the crop should make a good stand the crimson clover can be cut off for forage or hay in May and the sapling clover make a hay crop later in the summer. No better preparation for a good corn crop can be made than by the growing of the leguminous crops like cow peas soy beans and the clovers. They will tell much better than the use of commercial fertilizers on the corn crop. We would urge upon corn growers the importance of removing the tassels from the barren stalks of the crop as soon as they appear and before they have begun to shed their pollen. Allowing these stalks to pollenize in the corn crop is the prolific cause of barren stalks. Few realize what a loss of corn is sustained from these barren stalks. With persistent effort in removing the tassels this can be largely obviated.

Corn for the silo should be planted this month. Sorghum also should be planted for this purpose. In this issue will be found an article giving information as to the relative value of these two crops for silage and fodder. A combination of the two crops in the silo will make better silage than either alone. In planting for a silage crop do not plant too thickly but give the plant the opportunity of making a perfect growth and a fair proportion of ears. The silage will be sweeter and not so watery and its feeding value will be much higher. Cow peas may with great advantage be grown with corn and sorghum for the silo. They should be planted alongside the corn rows at the second working and will then grow up the stalks and can be harvested with the corn either with the corn harvester or by hand. The Whippoorwill pea is a good variety to sow for this purpose as it

keeps closer to the stalks and is not so apt as the Black pea to reach over from row to row and thus tangle the crop together and make it difficult to harvest. Soy beans intended for the silo are best grown as a separate crop from the corn and should be mixed with the corn as filled into the silo being run through the cutter alternately with the corn.

In our last issue we wrote very fully on the importance of planting forage crops for stock feeding and gave information as to the different crops. To that article we refer our readers and also to an article in this issue on the same subject.

Bring the cotton crop to a stand as quickly as possible by chopping out the excess of plants. Much cotton is injured in its growth and yield by allowing the crop to grow too long before the chopping out is done. The plants become drawn and spindling and then when the surplus plants are chopped out they fall over and are several days before they recover and acquire a sturdy and robust growth. All this is time and vitality wasted. When once a stand has been secured keep the cultivator running in the crop and encourage growth. Cultivate shallow and level. At the last cultivation sow crimson clover or sapling clover or a mixture of the two in the crop. This will improve the land make some feed and preserve the soil from washing in the winter.

The completion of the planting and the cultivation of the tobacco crop will require attention. Cultivate frequently until the crop is too large for the team to get through it without damaging the leaves. Look out for the first brood of worms and have them closely picked off or destroyed by spraying. The practise of spraying tobacco is now fully established in many sections and can be done without injury to the crop at any rate in the early part of its growth. We would not, however, advise spraying after the crop gets near ripening as it might stain the leaves with traces of the poison and thus prejudice the sale. The proper strength of the mixture to use for killing the worms is one pound of Paris green to 160 gallons of water.

The harvesting of the wheat and oat crops will demand attention before our next issue is in the hands of our subscribers. Do not fail to have the reaper and binder carefully overhauled at the first opportunity in order that it may be seen to be in good working condition. See to it that you have all neces-

sary repairs ordered at once and have them fixed and the machine ready for work. Do not let the crops become over ripe before commencing cutting. Much grain is wasted when the crop is over ripe and the grain itself is never so bright and fine in appearance as when cut just before becoming dead ripe. See to the hands required to enable the work to proceed quickly when once begun. Have sufficient force to keep close up to the machine so that all cut grain may be shocked before leaving the field. Select men as shockers who know how to make a shock so that it will turn rain. Poor shocking is the cause of great loss every year. A shock can never be set up a second time so that it will turn rain. It can be done the first time by a man who understands his work. The great art is to keep the centre of the shock well filled and the sheaves all so laid as to slope outwards from the centre so that any rain falling on it may be carried outwards and not inwards. See that the shocks are well capped.

The cutting and curing of the clover and hay crops will need watchful care. Do not let these stand until they have past their prime before cutting. Clover and the hay grasses are in their prime for making into hay just before reaching the full blooming period. Every day the crops stand uncured after this time they lose in nutritive value. The seed commences to form and in perfecting its maturity absorbs from the plant those elements upon which the nutritive value of the hay depends. As the seed of the clover and hay crop is not the purpose for which the crop is grown its formation should not be encouraged but the crop be cut when in its prime for feeding purposes, that is to say when all the nutritive elements are in the stalk and leaves. Let the crop be cut when free from rain and dew so that it will not take so long to dry and not run the risk of becoming bleached or fermented by lying in the sun. Hay, whether clover or grass, should, when cured, retain the leaves and blades and be of a green color. This cannot be the case if the crop after being cut is allowed to remain broadcast exposed to the sun and wind longer than is necessary to wilt the stalks and leaves. As soon as the clover or grass is thoroughly wilted, but before the leaves and blades are dry enough to fall off when handled, the crop should be drawn into windrow and be left in that condition for the wind and sun to draw through it and further reduce the watery elements in the plants but largely protected from the scorching rays of the sun. If rain or heavy dew threatens put up into small cocks and let stand over night and if necessary

over the next day. Then after the dew is off the cocks and ground on the following day, open out the cocks and especially be careful to throw out the bottom of the cocks which will have absorbed moisture from the ground, and let the wind and sun dry out the hay and thoroughly warm it. If the weather be good the hay should then be fit for putting into large cocks or if the crop be not a heavy one be hauled to the barn. Nothing but practical experience can accurately determine whether the hay is sufficiently cured to haul to the barn, but if all rain or dew is thoroughly dried out of it we would rather put it away in the barn a little undercured than overdried. In this condition it will heat in the mow but will take no harm if not disturbed, but cure out thoroughly. It will be a browner color but will retain its nutritive character and will smell appetising and sweet. If, however, it contains rain or dew when stored it will mould and may burn up from spontaneous combustion. We have known this to occur and the whole crop to be destroyed by fire. We have cured hundreds of tons of fine hay but never knew a crop free from rain or dew when stored to mould or fire. We have known it, when put in the barn too full of the natural juices, to heat so much as to become a very dark brown color, but it still made good feed and was eagerly eaten by stock. Of course this is not desirable, but it is better and more nutritious in this condition than in the dry and flavorless condition which is characteristic of the overcured hay, which is common in the South where leaves and blades are gone and nothing but woody stalks remain. When hay is stacked out of doors make one large stack rather than a number of small ones. There is much less waste and a much better product.

FORAGE CROPS FOR FODDER AND SILAGE.

In our last issue we published articles emphasizing the importance of growing forage crops of all the various kinds which we can so easily and profitably produce in the South. The weather we have had since those articles were written, and indeed ever since the year commenced has only served to make more necessary the advice we then gave. Abnormally dry and cold weather is cutting short the hay and clover crops and making the prospects for good wheat and oat crops look gloomy. "Long" feed for stock is likely therefore to be scarce and every farmer should see to it that a vigorous effort is made to meet this contingency whilst there is time to do so. Even in the best of years it is not sound practise or wise econ-

omy to neglect the raising of crops specially for stock feeding. The agricultural prosperity of every country in the world is largely measured and determined by the numbers of live stock of all kinds which they raise and mature. A country which does not raise live stock of every kind adapted to its climatic conditions is certain to lack prosperity and to become a wasted one. The example of the South itself is proof of this. As we advance in attention to live stock husbandry so will the South advance in prosperity and her lands take on their pristine fertility and enhance it. To succeed with live stock in the South it is essential that we should grow forage crops both for summer and winter feeding. However good the pastures may be in the spring and early summer there comes every year a time in late summer when the heat of the sun and a dry spell burns up the grass and stock suffer for want of feed. A field of sorghum, or cow peas and sorghum, or of fodder corn is then a god send to the farmer who has it. Instead of losing weight and shrinking in milk they will go on improving or at least maintain their position, and the pastures will be given an opportunity to recuperate and become capable of carrying a full head of stock up to the close of the grazing season. For winter feeding these crops when properly harvested and saved provide a variety of feed which is in itself almost as important in the well doing of the animal as a sufficiency. They enable a ration to be so balanced as to be an improving one without recourse to the corn crib, the miller, and the cotton seed mills or only require small help from these adjuncts. In our last issue we considered the value of the different forage crops as feeds and to this we refer our readers. We now want to say a word as to the relative value of these crops when harvested and saved in different ways. This point is well illustrated by experiments made at the Tennessee Experiment Station. Professor Soule writing on these in the *Breeders Gazette* says:

"Part of the sorghum grown on a piece of land was made into silage and part of it shocked and utilized as fodder the same method being pursued with corn for silage and stover. The cost of harvesting a silage crop from sorghum was \$12.83 and shocking the sorghum \$9.12. The cost of fertilization plowing and seeding would of course be the same. The total cost of putting up 19.8 tons of sorghum silage per acre was \$22.65 or \$1.15 per ton. The total cost of shocking 7.10 tons of sorghum fodder per acre was \$18.94 or \$2.64 per ton. The sorghum silage was ready for immediate use as food while the shocked sorghum

had still to be cut up in order to get it into the best condition for feeding.

"On the basis of the experiments made at the station with beef cattle 19.8 tons of silage when fed with four pounds of meal per head per day would have been sufficient to maintain seven beef cattle 150 days. The experimental cattle gained 222 pounds per head in the time indicated, making 1,554 pounds of gain. The sorghum fodder when fed with the same grain ration would have been sufficient to feed 5 1-2 animals for 150 days. The cattle on sorghum fodder and a grain ration made 173 pounds of gain, so that 5 1-2 animals would make 951 pounds of gain, in 150 days, a difference of 593 pounds in favor of the sorghum silage.

"Corn silage cost a good deal more than sorghum silage and the writer is inclined to believe that there is little to choose between the feeding value of the two for either beef or dairy cattle. Corn does not yield so well for either silage or fodder purposes as sorghum. It cost \$6.17 to harvest the corn and put it in the silo, the total cost per acre being \$17.11. It cost \$1.73 to harvest the stover with a total cost of \$4.38 per acre. The corn when cut in the silo yielded 8.3 tons of silage; when the ears were stripped off and the stalks cured as stover, 1.5 tons. The cost of a ton of corn silage was \$2.06 and a ton of corn stover \$2.92. Supposing the silage from corn and sorghum to be equal in feeding value, 8.3 tons of corn silage would be sufficient to feed three steers for 150 days. If the steers gained 222 pounds of beef in that time, corn silage would make 666 pounds of beef per acre when fed with a suitable meal ration. Of stover 1.5 tons would do but little more than supply the roughness necessary for one steer when gaining 145 pounds with suitable meal adjuncts. The difference in favor of the silage would thus be about 521 pounds per acre or nearly the same difference as is shown from making the sorghum into silage and into fodder.

"These facts should lead the farmer carefully to consider the relative feeding value of these two food stuffs in a dry and succulent form, particularly for beef production. Corn stover has been made on the farm from three different varieties of corn. Cocke's Prolific and Hickory King have produced stover at the least cost per ton, \$2.92. The average yield obtained has been 1.81 tons. From 1.5 to two tons will be the yield generally obtained from corn stover and the cost on the average will be close to \$3 to \$3.50 per ton.

"Two varieties of sorghum have been made into

dry feed, False Red Head and the genuine Red Head. The principal difference in the cost was due to the great variation in yield. One can probably expect to obtain about five tons of sorghum fodder per acre and the average cost will vary from \$3.50 to \$4.

"These facts seem to warrant the statement that silage can be produced at a reasonable cost from either sorghum or corn; that it is a hard matter to obtain a large enough per cent. of peas to influence the composition of the silage to any material extent; that a combination of corn and sorghum can be effected which will increase the yield of the total crop and probably make a more desirable form of silage than where one crop is used alone. It also seems clear that silage is peculiarly valuable in the South because of the large yields that can be obtained. These results would indicate that it is more desirable to put the crop in the silo than attempt to cure it in the form of dry fodder because of the greater palatability of the silage. It also seems that a crop made into silage has a much greater carrying capacity per acre than when made into dry feed and there is little to choose between the two methods so far as cost is concerned. Owing to a warm climate and a heavy annual precipitation the loss of feeding nutrients through long curing periods in the field is undoubtedly greater than in some other sections. These investigations demonstrate the importance of utilizing silage on a more extensive scale for the feeding of farm animals in the future than has been done in the past."

The results go to show the great value of sorghum as a feed crop and the importance of providing a silo for the saving of forage crops. In our next issue we will have more to say on the silo question. In connection with this question of growing forage crops we are often asked what area should be planted to provide feed for a given number of cattle. An experiment made recently at the Pennsylvania Experiment Station affords information on this subject. There nine different kinds of forage crops were grown for comparison of yield and their effect on the yield of milk and butter. These crops were clover and timothy, flat peas, Canada field peas and oats grown together, rape, soy beans, sorghum, sorghum and cow peas sown together, cow peas and field corn. These crops furnished a succession of green forage from June 15 to September 23. The yield of the clover and timothy was 6,872 pounds per acre of green feed, of the flat peas 15,588 pounds per acre of green feed, of the peas and oats 18,190 pounds per

acre of green feed, of the rape 24,960 pounds per acre of green feed, of the soy beans 9,934 pounds per acre of green feed, of the sorghum 27,279 pounds per acre of green feed, of the sorghum and cow peas 29,563 pounds per acre of green feed, and of the cow peas 18,095 pounds per acre of green feed. The crops were cut and fed in succession to a selected number of cows, each being given daily what she would eat up clean and about 9 pounds daily in addition if a mixed grain ration. At the rate at which the cows ate the forage and the yield per acre of the different crops the following table shows the number of days which one acre of each would feed 10 cows:

	Days.
Clover and timothy	16
Flat peas	36
Peas and oats	27
Rape	37
Soja beans	17
Sorghum	35
Sorghum and cow peas	34
Cow peas	21
Field Corn	16

ALFALFA IN THE SOUTH.

In order to stimulate interest in the growing of alfalfa in the South it is our intention to devote a considerable part of the space in our July issue to this crop. August and September are the best months in the year for seeding the crop in this section and we desire that our readers shall be put into possession of the fullest information on the subject before that time. We would ask all who have had any experience in growing alfalfa to give us the benefit of their knowledge on the subject by writing us short articles for publication in that issue. We believe that alfalfa promises as much, or more, for the South as it has done for the West and this means millions for our farmers. We desire to hasten the time when this shall be realized by giving all the help in our power on the subject.

COW PEAS AND SOY BEANS SOWN IN CORN.

Editor Southern Planter:

I have grown cow peas with great success for a number of years in a State further South and I learn that this crop is grown successfully in States further North than Virginia. It seems, therefore, reasonable to think more farmers could grow this crop

profitably in Virginia, but in Southwest Virginia especially the cow pea is seldom seen growing.

We do not know the best way to grow this important soil improving crop here. We do not know the best varieties for our soils, nor do we know the crop will grow well on our lime stone soil without the soil being inoculated with cow pea bacteria, nor do we know whether we can grow a good crop of peas on the soil without losing a crop from the soil. The results of an experiment made last year may be worth something to farmers now since much corn will have been cultivated the last time before another issue of the *PLANTER* comes out.

On July 11th last year I sowed Whippoorwill cow peas and soy beans in my corn just ahead of the cultivators. The ground was in fine condition and the cultivators put the seed in nicely. Good seed were obtained of T. W. Wood & Sons for experimental purposes.

The date mentioned was very late to sow the seed and I had serious doubt about the success of the crops. On the following 12th of October the land was again plowed and seeded to wheat. My peas made a growth of 12 to 18 inches high, which I thought good for the cool, dry season. The soy beans did no good whatever. They started off very poorly. The weather seemed entirely too cool for them. The root tubercles were very few, only one or two on each vine of the peas. Perhaps there would have been more if seed had been sown earlier. No peas had ever been grown on the land before.

Now (May 18th) the wheat that is growing where the peas were, is rank, and has a rich black color, showing the presence of nitrogen.

I believe the crop was profitable, sown even that late, hence I am thinking of sowing more this year in June just before my corn is cultivated the last time. I have heard of instances where parties grew peas with corn each year, and each successive crop of corn was larger than the preceding one. That was profitable farming since larger crops of corn showed increased fertility of the soil. No bill for expensive fertilizer had to be paid. If we can grow peas on our corn land successfully to enrich the soil for the following crop of wheat and save that heavy cost of commercial fertilizers for wheat, it would mean a great saving to Virginia farmers. This "fertilizer business" is getting to be a costly one. Let us see if we can make more of our fertilizers on the farm, first by growing the legumes, such as clovers, beans and peas, and second by saving all manures on the farm. Sow more grass seed and keep more stock. I

have some experiments under way now with grasses the results of which I want to publish in the *PLANTER*.
R. H. PRICE.

Montgomery Co., Va.

We are of opinion that both cow peas and soy beans can be successfully grown in Southwest Virginia, except possibly on the highest elevations of the mountains. They can certainly be grown in the valleys. Both these plants are semi tropical products and elevation has as much to do with their growing in sections out of their original habitat as latitude. Experience has shown that they can both become acclimated to northern latitudes and high elevations. They can neither of them, however, be grown successfully until the soil is inoculated with the proper bacteria peculiar to each. That these bacteria can be successfully inoculated into the soil of Southwest Virginia we have no doubt. A limestone soil is peculiarly fitted for the propagation of the bacteria. Writing on this subject in a recent Bulletin Prof. Cyril Hopkins, of the Illinois Station, who is doing a great work in introducing the leguminous crops into Illinois, says: "Plants cannot use the free nitrogen of the air as plant food, neither can they use the organic compounds of nitrogen which occur in the soil. There are at least three different kinds of bacteria and also three different steps or stages involved in the process of nitrification, the nitrogen being changed from the organic compounds first into the ammonia form second into the nitrite form and third into the nitrate form. During the process the nitrogen is separated from the carbon and other elements composing the insoluble organic matter and is united or combined with oxygen and some alkaline element (as calcium) to form the soluble nitrate, such as calcium nitrate which is one of the most suitable compounds of nitrogen for plant food. Calcium is the alkaline element contained in lime or limestone. * * * If no alkaline element is present in available form then no nitrates can be made in the soil. One of the reasons for applying ground limestone to soils which are deficient in lime is to furnish the element calcium in suitable form for the formation of nitrates in the process of nitrification." In Illinois as in Southwest Virginia neither cow peas nor soy beans have been generally grown, but Prof. Hopkins has demonstrated that they can be successfully grown there when the soil has been inoculated with the proper bacteria. He says that cow peas will themselves introduce the bacteria for plant as the seed usually carries the infection. The first crop will not have many tubercles on the roots nor be a very heavy crop but succeeding

crops will carry a full crop of tubercles and be luxuriant in proper seasons. For soy beans he advises inoculation of the soil with the soy bean bacteria as the seed carries little if any of the infection. In experiments made with soy beans at Urbana, Ill., no tubercles were found on the roots of the crops for two years and only very few in the third year when the soil had not been inoculated. After the soil had been inoculated with infected soil tubercles were at once formed and the crop became a success. From these and other similar experiments it is concluded that as a rule soy beans should be inoculated when they are first seeded and then they should be grown a second year upon the same land. If soy beans are afterwards grown on this land once in every three or four years the soil will doubtless remain well infected with the soy bean bacteria. We commend this advice to our Southwestern friends. They can have both cow peas and soy beans and they are both too valuable crops to be dispensed with as improvers of the land and economisers of purchased fertilizers to do without.—Ed.

LIME AS AN IMPROVER OF LAND.

Editor Southern Planter:

I notice in the May number of your valuable paper the remarks on my article on lime as an improver of soils. I feel it my duty to you and the many readers of your much esteemed paper to reply to some of the comments made.

My article was not prepared alone from my individual experience but largely from observations covering a wide field and taking in almost all prevailing conditions. I was born and raised in the western part of Maryland. In the Cumberland Valley when a boy back in 1866 and 1867 I frequently went to Washington city. In doing so I passed through Montgomery county, which runs up to the District of Columbia. This county lies east of the Blue Ridge and its lands are of about the same nature as those of Appomattox, Charlotte and Buckingham counties, in Virginia. At the time above mentioned the same conditions prevailed there as now in the last named counties. There were galls and gullies. The rotation of crops was corn, tobacco and pines the prevailing crop of grass was broom sedge. A few years after the war Pennsylvania farmers began to purchase this land at from five to fifteen dollars per acre. In the course of a few years they had bought up the larger part of the county. They adopted a system of liming. They had to have their lime shipped from 40 to

70 miles. So extensive was the shipment of lime that the B. & O. R. R. was compelled to construct boiler iron box cars. They first, as you suggest, tried to ship unslaked lime in bulk in wooden cars. After having a number of them destroyed by fire from the lime slaking they adopted the boiler iron cars. I don't know whether there is a railroad in the State of Virginia that would undertake to ship unslaked lime in bulk and to have it barreled would be too expensive. But to my subject. Montgomery county, Md., to-day and for 25 years has been one of the most productive counties in the State of Maryland. When you travel through it now it rivals the best glue grass regions of Kentucky. Blue grass has taken the place of broom-sedge. Clover and timothy has replaced the scrub pines, fine bank barns stand where the old log stable used to stand. Instead of starvation staring you in the face plenty and prosperity is seen on every hand.

The conditions under which this country was transformed from a poverty stricken waste to a prosperous and productive country were not such as prevail in the South to-day. Those people never heard of acid phosphate and never saw cow peas. They used nothing but lime and barnyard manure. They depended upon the lime to draw the potash from the sand in the soil and the phosphorus from the oxide of iron of which all of our land has an abundance.

Shifting the scene to different conditions of soil. There is a large tract of country lying between Baltimore, Md., and Wilmington, Del., that 40 years ago was entirely worthless. It was a low, wet, swampy country just such land as is to be found around Newport News, and much of the coast region of Virginia. By the use of lime and proper drainage this land to-day is producing from one and a half to two tons of the best timothy hay to the acre that goes on the Baltimore market. This, sir, is not theory. With fifteen years of such experience and observation as but few men have had in a canvas from house to house for ten years on every farm on which grain or grass was grown over all the Middle States, from Georgia to Western New York, that one could possibly reach, I think I have a fair idea of what results must follow the judicious treatment of any soil that has come under my observation in Eastern Virginia.

I have seen soils treated with from ten to two hundred bushels of lime per acre, but I have failed to see a piece of land over-limed yet. The idea of over liming only originates in men's imagination.

That lime is not a direct plant food I admit to a very great extent, but that it renders plant food avail-

able in the mineral substances that compose all soils and is nature's great plan for supplying food for vegetation is a fact based on natural law. You must admit that sandy soils are rich in potash and that lime will dissolve this sand and allow it to give up its potash as a plant food. It is no less a fact that red clay soils are rich in phosphorus. Lime will act so as to render the phosphorus available as a plant food. The moment these elements are rendered available instead of diminishing the humus in the soil they commence to store up in the soil for future use all that the plant does not require for its growth and development. The greatest destroyer of humus in our soils is sulphuric acid used in dissolving the South Carolina rock, the source of most of our acid phosphate. Manufacturers claim it is all neutralized but the claim is not a correct one. This acid has destroyed more humus in the soils of East Virginia than all other agents combined. Its greatest destruction takes place in soils poor in alkali. Those rich in alkali will neutralize this acid before it can do so much damage. The man who spends his money for acid phosphates to apply on lands that are poor in alkali adds fuel to the fire and is rendering himself and his land poorer every application he makes. The same is true of the man who turns under a crop of cow peas or any other vegetation in a green state.

Method in doing work is the direct result of thought on the same principal as method in hitting the mark results from shooting straight. The man who stands off and gives directions is not as likely to hit the mark as the fellow who holds the gun, neither is the man so competent to advise on the best method of applying lime to land who has never tried it himself as the man at the end of the shovel.

Bedford Co., Va.

OTHO HULL.

Whilst we rank ourselves as amongst the most enthusiastic advocates of the use of lime as an improver of the soil and have proved our faith by our works by having been persistent users of lime even to the extent of applying it at the rate of four or five tons to the acre once in each rotation of crops, yet we are unable to agree with our correspondent that overliming is practically impossible. Recent research and experiments have conclusively in our opinion proved that moderate applications of lime, say up to 50 bushels to the acre applied every three or four years, are more beneficial and perform all the work needed in the amelioration of the soil better than excessive applications. The beneficial action of lime is not exclusively confined to its power to make available the potash and phosphates in the soil. It

acts also as a restorer of alkalinity in the soil and in this way permits of the multiplication of the soil microbes on the action of which largely depends the fertility of land. These cannot exist or multiply in an acid soil. It also acts mechanically and physically rendering a heavy soil lighter and a light soil more cohesive. Whilst we believe that lime is more needed on nearly all the land of the South than even acid phosphate or any other fertilizer as all the analyses of soils made go to show a large accumulation of both phosphoric acid and potash in nearly all soils greatly in excess of crop requirements for years to come if made available, yet we cannot join in our correspondent's condemnation of the use of acid phosphate because of the fact that sulphuric acid is used in the making of it. We believe that little if any injury results from the acid. When the acid is poured on the ground rock and mixed with it the phosphoric acid in the rock is set free and the lime the other element in the rock unites with the acid and becomes sulphate of lime exactly the same substance which is sold as land plaster and is applied in large quantities and with excellent effect on some lands. Rock or shell lime is chemically carbonate of lime. Plaster is sulphate of lime, and they both are valuable as sweeteners of the soil and as solvents of inert plant food. If in the acid phosphate applied to land there is any free acid, that is to say if the fertilizer manufacturer has wasted sulphuric acid by applying to the rock more acid than the lime will appropriate in its conversion into sulphate of lime this free acid has such an affinity for combination that as soon as it gets into the soil it unites with some mineral base therein and becomes fixed and does not burn up the humus or vegetable matter in the soil. Hence the use of acid phosphate is never attended with danger to the crop though it may in some cases amount to a waste of material and lime might much more profitably be applied to set free the abundance of phosphoric acid existing in the soil. We are also not able to agree with our correspondent's views as to the relative richness of potash in sandy and clay soils. Analysis goes to show that clay soils are as a rule much richer in potash than sandy soils and especially is this true of the clay soils of the Piedmont sections of the Southern States. Clay soils are a product of the decomposition of silicates and contain alkalis and alumina. Lime combines with the silicic acid and sets free the potash. This action, of course, takes place in all soils whether sandy or clay and the relative benefit from its use depends to a considerable extent upon the natural potash and

phosphate content of the soil, though not solely confined to this action as above pointed out. If we can only induce Southern farmers to use lime freely and to grow humus making crops there is no doubt but that our lands will improve as fast as those of Maryland and Delaware did under similar treatment. We note that one of the largest and most successful corn growers in Pennsylvania, Mr. Long, of Lebanon county, is one of the most extensive lime users in the State, although his farm is on a limestone formation. Every acre of his 500-acre farm has had at least 1000 bushels slaked lime applied to it during the past 20 years. Lime is applied to grass lands with a manure spreader, any time after wheat harvest up to April 1. All the lime used is burned on the farm. The limestone is picked up from the fields.—ED.

SOME RANDOM NOTES ON MAY NUMBER.

Editor Southern Planter:

One of your subscribers, referring to my letter in your May number, says that he likes the way I write. I am always glad to know that people approve of what I contribute, and hope that any suggestions I may make will be of value to many.

SORGHUM AS A FORAGE CROP.

One of the greatest values of sorghum as a forage crop comes from the ease with which it may be kept all winter. It is especially valuable to those who are short of house room, for while it never really cures in the same way that Indian corn does, it can be shocked up in an upright shape out of doors, and will keep in a succulent state all winter through, and will be a very acceptable addition to the feed on account of its not curing, but keeping in a sweet and succulent state. Still to those who have a silo I cannot think that sorghum has a special value, since it is merely a carbonaceous feed, and we need more protein feeds to supplement the corn, which is the greatest of all carbonaceous feed materials in this country. And not only this, but we need the legumes rather than crops that are exhaustive in their nature.

COW PEAS AS A HAY CROP.

The Arkansas Station is evidently under local conditions that do not prevail to the same extent in lower altitudes in the same latitude, for they say that the Unknown or Wonderful pea failed to mature or even to bloom. Hence, while their conclusions may be all right as based on their conditions, they do not agree with my experience. They say that cow peas in a vigorous state of growth are hard

to cure. I have cut them at all stages and have never had any difficulty in curing them at any stage of growth. But it is true that the best time to cure them is when mature to the extent of the pods turning yellow. At that time some here succeed in curing them by shocking as fast as cut and letting them cure in the shock perfectly. I prefer my own method as making less damaged hay or at least hay of a better color. They say that late, shallow culture prolongs the season of growth. True, but if the crop is for hay, it should never be cultivated, but be sown broadcast. I have tried the row and cultivating plan and got a heavy growth, but the vines tumbled across the rows flat on the ground, and the mower failed to get them so that we had to go through with hand scythes and cut them loose from the rows. Therefore, if for hay, I would never put them in rows. Here, if the crop is left till one-third of the pods are perfectly ripe there will be a great loss of leaves, for they begin to drop as soon as the pods ripen. The very late varieties are harder to cure than the earlier ones, since the weather late in the season is apt not to be so favorable and the hay must be left out longer. They say that varieties producing the heaviest crop of peas are most easily cured into hay, while those producing a few peas or none at all, were the most difficult to cure, since they habitually continue in vigorous growth until checked by frost. This may be true under the conditions up at Fayetteville. But the earlier ones which make a heavy crop in proportion to growth make a smaller yield of hay than those like the Unknown (Wonderful), which, where they mature, will make a very heavy crop of peas and a far heavier crop of hay than the earlier sorts that make less vine. Cow peas must be of such sorts as are adapted to the climatic conditions where they are grown. Where the summer is long enough there is no variety that will surpass the Unknown (Wonderful) in yield, and where it fails to mature or even to bloom, as it did at Fayetteville, it should not be used.

SAWDUST.

Is it not odd how often that query about sawdust as a manure comes up? I should suppose that a little thought on the part of any one in regard to the nature of sawdust would settle the matter, but week after week the same query comes from people who have a big pile of sawdust handy. I have found it a poor thing when used as an absorbent for manure, and have compared it with manure in which other absorbents were used, and I would hardly haul sawdust manure as a gift.

SALT, SULPHUR AND LIME MIXTURE.

The best thing in connection with this is the discovery that it is just as effective if the sulphur and lime are slaked together, 40 pounds of lime and 20 pounds of sulphur, with 16 pounds of salt added after slaking, and then diluted with 60 gallons of water and used at once as though boiled, as most of the Entomologists insist is needed. There is no longer any need for the troublesome and tedious boiling, for the lime will make all the heat needed in its slaking.

GINSENG.

Doubtless there is money in ginseng to those who are engaged in selling plants and seed to those who expect to make money in the maturing of the roots, but whether there will be money in it to those I think is doubtful. Certainly not in the warmer parts of the South away from the mountain country where it grows naturally.

TOBACCO FERTILIZER.

Your Dinwiddie county correspondent says that he used a fertilizer containing 2 per cent. nitrogen, 9 per cent. phosphoric acid and 2 per cent. potash. Being a manufactured article, there is no knowing what the source of the potash was, and in my opinion from considerable experience in fertilizing tobacco, he had too much phosphoric acid and far too little potash in the mixture. One reason why some fail in growing tobacco after a legume crop is that they overlook the fact that the legumes have left a large amount of organic nitrogen in the soil, and apply the usual amount in the fertilizer and get a coarse tobacco. I would never use more than 6 per cent. of phosphoric acid nor less than 10 per cent. of potash from high grade sulphate for tobacco. If after a legume crop 2 per cent. of nitrogen will be enough, but if not, then nitrogen in the form of dried blood and nitrate of soda should be added.

NAVY BEANS.

You are right in saying that the crop can be grown in the South, but they will never be as profitable here as in the North, because of the large percentage of damaged beans from the great humidity in our atmosphere in our July and August weather. The little bush Limas can, however, be made a profitable crop here I believe.

VELVET BEANS.

Down in the southeast corner of this State they claim that the great mass of the velvet bean is easier saved and easier cured than cow peas. It is hard for me to realize this, however. But they are planted so wide apart that there are fewer attachments to the

soil and the mass is more easily loosened and rolled into windrows. But from here northward there is little value in the velvet bean.

HOLSTEINS AND JERSEYS.

Though it has been years since I was actively engaged in dairy work my experience is similar to what Mr. St. Pierre suggests. I had both breeds, and I found that I could get better results from the same amount of food fed to Jerseys than I could from Holsteins. Just now there is a disposition to boom the Holstein as a dual purpose animal just as though mere size was all that is needed to make a beef animal. If the Holstein is bred, as she should be, to a perfect dairy type she cannot be at the same time a good beef animal, and no breed on earth can be at the same time the best for dairy and the best for beef. The Holstein breeders had better be satisfied with making a fine dairy producer and let the beef men breed the beef animals. There are doubtless dual purpose animals, but they are not first class in either purpose, only part dairy and part beef, and they suit only those who are neither dairy men nor beef men, but are satisfied with an "'arf and 'arf" cow.

W. F. MASSEY,

Editor of Practical Farmer.

FARMING AS A BUSINESS.

Editor Southern Planter:

In answer to "Virginian," permit me to say that I am following exactly the course advocated in my article on "Farming as a Business." I am doing this not on sand, but on lands with a good clay foundation.

I have also tried harvesting the pea crop as suggested by "Virginian." I had 35 acres of cow peas last year that would have yielded about 3 tons of hay per acre. Tried to mow the mass of tangled vines, standing nearly four feet high, and so thick that I could hardly walk through. The wheels and blades of the mower sank so deep into the soil, made mellow by the luxuriant vegetation, that the machine would not work. Tried every way known to me, hired even men with blades, and had to give it up.

"Virginian" is correct in saying that peas do not require lime, yet if untreated rock lime is to be used on the land, I prefer to spread part in the spring for the winter crop. If "Virginian" should ever use acid phosphate or potash on any crop he would destroy every bit of vegetation. He probably means use "phosphorus and potassium," which are very different articles. For information as to their use, I refer to my previous article. As to cost of lime, I

beg to refer "Virginian" to an article by Mr. Otho Hull in the April issue of the SOUTHERN PLANTER. As to keeping a lot of stock as a means of improving the farm, I beg to submit that I have tried this also, and the lesson has cost me a good many thousand dollars. I repeat, don't do it. Improve your farm, plant as many acres as you can to alfalfa and grass for hay and lay down your pasture to tame grass before attempting to keep more stock than absolutely necessary. Broom straw and Bermuda pastures in this State are late in coming and early in quitting. Don't go into the live stock business until your farm produces an abundance of feed for it. Don't put the cart before the horse.

It is of no use to try to improve a farm by poor crops of peas yielding perhaps a ton of dry matter to the acre. It is better to sow fewer acres to peas and fertilize these heavier. If you have a way of harvesting the pea hay, and if you find that the cost of harvesting, feeding and of hauling and spreading the manure is no greater than the profit, by all means do so. It is an easy matter to figure the cost. But bear in mind that pea hay is not easily cured, that it spoils readily, that if you have a fair crop it is extremely difficult to cut and to handle. It costs money also to haul and spread such quantities of manure. Theoretically, it is correct to feed the crop. In practice, I have found it cheaper to plow the peas under. Beware also of depending too much upon your pea hay to feed your stock, because of the difficulty of properly curing it.

The great inducement for men to buy run down lands in the South has been and still is the erroneous belief that they are getting something cheap. Had they considered that the value of land consists only in its productiveness and fertility many disappointments would have been avoided. Land yielding 50 bushels of corn or from 3 to 4 tons of hay in Virginia will yield higher profit than Western lands equally productive because of the higher market price of the products. If lands here can be made to yield such crops, and I know that it can be done, the quicker it is done the better. Time is money. If the work can be done in two years, it is poor business to waste a lifetime at it.

N.

Hanover Co., Va.

SOY BEANS.

Editor Southern Planter:

The soy bean is one of the richest, if not the richest, of all the beans in fat and flesh forming matter.

Not like cow peas, rich in protein and poor in fat, or corn rich in fat and poor in protein, but rich all around as we want it, especially for milch cows and growing stock.

Bulletin 58, page 14, Department of Agriculture, says: Soy beans contain almost 2 1-2 times as much digestible protein and over 5 times as much fat as common roller process wheat bran.

They contain three times as much crude protein and nearly 3 1-2 times as much fat as oats. Nearly 3 1-2 times as much protein and about 3 times as much fat as corn.

Soy beans resist drouth and water damage and are consequently, under ordinary circumstances, surer to succeed than most other crops.

The following table of comparative values will throw light on the subject:

Soy beans cut and cured for hay contain:

Protein, 15.4 per cent. (flesh and muscle forming matter); carbohydrates, 38.6 per cent. (fat and heat producing matter); fat, 1.5 per cent.

Threshed seeds contain:	Per cent.
Protein	34.09
Carbohydrates	28.08
Fat	16.09

Cow peas cut and cured for hay contain: Per cent.

Protein	16.6
Carbohydrates	42.
Fat	1.5

Threshed seeds contain: Per cent.

Protein	28.8
Carbohydrates	55.
Fat	1.7

Authorities differ as to the contents of soy beans and cow peas. One authority places the protein in cow peas at 20.2 per cent. The above may be considered a fair average. The yield of soy beans is another thing in their favor. At the North Carolina Experiment Station an acre produced 2 1-2 tons of well cured soy bean hay, while an acre of cow peas, under similar conditions, produced less than a ton.

The soy bean is a legume and draws its nitrogen principally from the air. Hence the large yield makes it one of the best crops to be turned down for improving the soil.

100 BUSHELS PER ACRE.

Mr. James Bellwood, of Virginia, reports that he grew on rich bottom land over 100 bushels of soy beans per acre.

SOY BEANS AS A BALANCE.

At the Kansas Experiment Station one part soy

beans and five parts Kaffir corn mixed made double the amount of pork over Kaffir corn alone.

One part soy beans to three parts of corn will largely increase the feeding value of the corn.

If soy bean hay be mixed with corn fodder, shredded corn stalks or timothy hay, half and half, a great saving will be effected over feeding the different foods separately. There appear to be at least three varieties of the soy bean—the Early Yellow, the Medium Green and Mammoth. The Medium Green is a good all round variety, but at the Kansas Experiment Station the Early Yellow gave the best satisfaction.

TIME AND METHOD OF PLANTING.

For hay soy beans may be planted in drills 2 1-2 to 3 feet apart as early in the season as the weather will admit of, say, about the 15th of May. Single seeds may be dropped in the drills from 1 to 3 inches apart.

Cut while in bloom or soon after the pods form.

A mixture of soy beans and Kaffir corn, 3 to 5 seeds of each per foot, makes an excellent hay. If planted early the hay harvest will come off about the 15th of August, when we are apt to have fine weather for curing.

For seed they may be planted in drills 3 feet apart from May 15th to July 10th. Single plants may be left in the drills 12 to 18 inches apart. The soy bean is a bushy, upright plant from 3 to 5 feet high and requires distance. Late beans, to mature a little before frost, are not apt to be molested by weevils.

The large percentage of fat in soy beans is apt to cause them to heat in bulk, thus destroying their vitality. Therefore they should remain in the hull until thoroughly cured.

Whether soy beans be grown for hay or seed, cultivation is desirable. If soy beans be used for human food, they should be soaked in water and the hulls removed; thus treated they make an excellent soup. In their natural state they appear to be too strong.

The ranker the growth, the more nitrogen will be drawn from the air. Therefore it pays to fertilize liberally.

FERTILIZER FOR SOY BEANS.

Mix 400 pounds of muriate of potash with 1,600 pounds of acid phosphate, and apply of the mixture in the drills, preferably a few weeks before seeding, 400 to 600 pounds per acre, mix with the soil and plant as aforesaid.

BRYON TYSON.

Moore Co., N. C.

In our experience soy beans should not be planted in this State later than 20th June to make a good seed crop. They are slow to mature. Planted up to July 10th they will make a hay crop.—Ed.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Rotation of Crops.

I read with great interest the enquiry from Dr. T. T. Arnold, of King George county, on "Rotation of Crops," and your reply thereto. As you made him many good suggestions, I will give you my rotation and wish you would treat me likewise.

First year, corn land in wheat, after wheat is threshed (usually by the 20th of June) sow in peas, cut peas for hay (after picking) and sow this stubble in red clover and red top after a thorough disc harrowing and rolling. Second year, mow red clover and plow after mowing and sow in peas. Cut peas and sow German clover. Third year, fallow German clover in and use 300 pounds per acre of 12-2 fertilizer for corn.

I have been trying this rotation for about eight years and my land is improving very fast, with but little cost. You will see I only cut the red clover once, as our land is a light loam, and if I were to leave the red clover until the second year it would be more broom straw than clover, and the peas will make me far more hay than the second cutting of clover. I am glad to say my farm is not a large one, therefore, for greater convenience I have it cut up into lots ranging from five to eight acres (except standing pasture). I have learned from experience that large fields are a disadvantage now that labor is so scarce and inferior. I plow a little deeper each time. I have not tried subsoiling, but will when I turn down my German clover for corn. I might add I put all my manure on the German clover and try to cover one of these lots every winter, hauling it right from the stables,

Richmond Co., Va. W. GRAY BROCKENBROUGH.

You have adopted a rotation which is bound to improve your land and result in good crops. The only suggestion we would make is that you give the land a dressing of lime, say 25 to 50 bushels to the acre once in the rotation. We would apply this after plowing the pea stubble and before seeding the German clover. We think you will find subsoiling to help you.—Ed.

Curing Clover Hay.

In enclose you an article clipped from the Farm Journal, of Philadelphia, entitled, "The experience of a veteran with clover hay." I learned fifty-three years ago to cut clover when in bloom. Cut in the forenoon, stir thoroughly and be sure it has all wilted.

Do not allow any of it to go into the barn with any dampness, dew or rain.

Commence hauling right after dinner; three or four hours after cutting is long enough for it to wilt. Keep cutting day after day and be sure that no salt is allowed on hay of any kind. It does great damage to the hay; it turns it black and produces a disagreeable smell.

When it is put into the barn, as I tell you without salt, it comes out in the winter with green leaves and pink bloom, just the same color as it went into the barn. Butter made from cows that are fed on such hay will be yellow, same as butter from grass.

Cut your timothy hay when it is in bloom, put it in the same as clover. I have been doing this kind of haying all my life. Never lost a pound of hay and I cannot get, nor ever have gotten, more than five men to practice this mode, and they could not be hired to practice the old style—dry it a week. There are some men on the prairies who start their mower as soon as the dew is off, and in a few hours start their wagons to hauling to barns or stacks, and their hay is worth one-third more than that which has been dried to death. Any man who tries it once will never go back.

Cobden, Ill.

S. W. BECKWITH.

Having never tried this method of curing hay I would be glad to have your opinion and experience on the subject. Could such a method of curing hay be successfully practiced here in Midland Virginia? Would not the hay cured in this way become so heated and afterwards molded as to destroy its value as food for stock? Please answer through the columns of the SOUTHERN PLANTER in the June issue if you can, and oblige a subscriber.

CHAS. M. MOSS.

Louisa Co., Va.

We have given our views on the proper method of curing clover and grass in our article on "Work for the Month" in this issue. This is based on a 35 years experience in curing hundreds of tons of hay. The advice to cut when in bloom is good also the advice not to use salt and the advice not to haul when damp with rain or dew, but we cannot endorse the advice to haul into barn as soon as wilted. Something more than mere wilting is necessary. It must be sufficiently dried to reduce the watery sap natural in the plant to such a minimum as will prevent overheating in the mow after it is hauled. To put it in a mow only just wilted would be likely to make good silage but very poor hay.—Ed.

Will you please give me some advice as to what to do with a field now in wheat. I expect to put it in grass in the fall. Shall I have to leave it bare during the summer?

W. H. RANDOLPH.

Montgomery Co., Va.

The field should not be left bare. Cut the stubble

up with the disc harrow as soon as the wheat is cut and sow in cow peas. This will make either a seed crop, a grazing crop for hogs, or the vines may be cut for hay in time to seed with grass in the fall.—Ed.

Bermuda Grass.

Could you please tell me in next issue of *PLANTER* whether there is any material difference between the genuine Bermuda grass and what we in Eastern Virginia call Wire grass?

W. V. N.

Westmoreland Co., Va.

Southern wire grass and Bermuda are the same. The grass known in the Middle and Northern States as wire grass or quack grass is not the same Bermuda. Some of this Northern wire grass is to be found here and there in some of the Eastern States. Genuine Bermuda is a semi-tropical grass and will not grow far north of this State. The winters kill it out.—Ed.

Grass for Name.

Please find enclosed a sample of grass for name. Is it of any value, and if so, how many seed would be required per acre?

P. H. BURTON.

King and Queen Co., Va.

The grass is Wild Rye. It has some value as a pasture grass but we are not aware that you can buy the seed anywhere.—Ed.

Best Laying Hens—Peas and Sorghum—Cow Pea. Storing Turnips—Profitable Crops for Late Sowing—Beet Cutter.

1. Last fall I noticed the reports of some egg laying contests in Australia, in which Buff Orpingtons and White Wyandottes took a leading part. The Orpingtons particularly seemed to take the lead. Why are all these egg laying contests held in Australia? We like the Wyandottes but all white chickens are hard to raise. Are the Buff Orpingtons as good or better layers than the Wyandottes as raised in this country?

2. In sowing peas and sorghum together in rows for hay would you use a wheat drill, a corn planter, or what?

3. Will peas sown thus in rows do the land as much good as if sown broadcast?

4. What is the best variety of peas to sow with sorghum, for hay, when sown as late as June 15th to 20th?

5. I noticed in last month's *PLANTER* it is recommended that turnips, to be kept over winter, be piled on two sides of a fence and covered with fodder. Why will not piling in a long ridge do just as well?

6. What is the most profitable garden or farm crop

that can be planted as late as June or July, where no stock are kept, and the crop must be marketed?

7. Is there a machine made for cutting up beets, etc., for stock, and where may it be obtained?

"THREE S'."

1. The egg laying contests in Australia are promoted by one of the leading newspapers in the colony and are an annual institution there. We have just received the report of the contest for 1903-'04. In our poultry columns you will find a summary of the results. The White Wyandottes come first, Black Orpingtons second. Buff Orpingtons are low down on the list but they do not appear to be a breed much kept there. We have some excellent reports of their work here.

2. We would sow the peas and sorghum with the wheat drill. If we were prepared to work the crop which is advisable for the best results, we would stop up sufficient spouts in the drill to sow the crop wide enough apart in the rows to permit cultivation.

3. Yes. They will make a sufficiently heavy growth to cover and shade all the land and thus promote nitrification whilst the stronger growth will result in more nitrogen nodules on the roots.

4. The Clay or Whippoorwill.

5. We do not know why the writer of the article advises storing on both sides of a fence except it be to keep the pie from settling too closely. We never stored turnips with the tops on as there advised. We have made hundreds of pies of turnips without the tops and in doing this work desired that they should pack as closely as possible.

6. This is a difficult question to answer. Possibly a cow pea crop grown for the seed under the conditions named that is with no stock to consume the waste. Cow peas always sell well. This year they are very scarce and dear. In suggesting this crop we take into account not only the value of the peas but the value of the vines and roots as improvers of the land. For a garden or truck crop probably a cucumber pickle crop would be as profitable as any, though possibly in a section where a late crop of Irish potatoes could be grown this would run it close, as second crop Irish potatoes always sell well for seed.

7. Yes. The implement dealers in this city whose ads. you will find in this issue sell the machine.—Ed.

Applying Nitrate of Soda—Irish Potatoes.

I have about 85 acres in cotton, 40 in watermelons, 8 in cantaloupes and 2 in cucumbers. When planted I applied about 700 pounds of a mixture of

cotton seed meal, kainit and acid to the cotton. I put 600 pounds of Boids Animal Bone on watermelons and 800 of the same to cantaloupes and cucumbers. I am thinking of applying nitrate of soda to these crops mixed with cotton seed meal, 100 pounds of each to the acre. Will this be advisable, if so when? Is there any danger of injuring the land by using this amount of soda? I have a large crop of early Irish potatoes which will soon be ready to ship. Can you give me some ideas in regard to saving and shipping? When is best time to dig and what kind of barrels to use? At what price ought they to sell?

A SUBSCRIBER.

The party sending the above enquiry neither signs his name nor gives his address. We have repeatedly stated that we must decline to reply to queries where the name and address of the writer is not given and should have followed this course in this instance, but desired to use the case as an illustration of the necessity of the rule. In this case we are asked to advise as to the sale of early Irish potatoes when we do not know where they were grown. It is impossible for us to advise intelligently in such a case. The most we can say is ship them to a Northern market as soon as they are fit to dig. Ship in barrels. As to the nitrate of soda and cotton seed meal proposed to be used as a top dressing we would advise the use of the nitrate of soda alone. The cotton seed meal will be practically wasted. Nitrate of soda will not injure land and will greatly help the growth of the crops.—Ed.

Celery Growing—Irish Potatoes.

1. When should celery seed be put in hot bed for fall planting?

2. What sort of land and fertilizer will make best results?

3. How many bushels of Irish potatoes does it take to plant an acre?

4. Please give me name of best variety for this section?

Mrs. R. H. WILSON.

Charlotte Co., Va.

1. In this issue in the article "Work for the Month" in the garden department you will find advice as to sowing celery seed. The plants should not be raised in a hot bed but in the open air.

2. In our next issue we will say something as to the land and fertilizer required by this crop.

3. Eight to ten bushels.

4. Improved Peach Blow, Rural New Yorker No. 2, Burbank, Peerless.

Vinegar Making—Sowing Alfalfa.

1. Please give in your next issue a good method of

handling apple cider (crop 1903) so as to convert it into vinegar of good quality?

2. Is spring or fall the best time to sow alfalfa?

Culpeper Co., Va.

A. Y. PARR.

1. Send to the Experiment Station, Blacksburg, Va., for their Bulletins on cider vinegar making. These will give you the fullest and best information.

2. In all except the mountain sections of the South the fall is the best time to seed alfalfa. In the mountains seed in spring.—Ed.

Wolf Teeth in Horses.

Is there such a thing as wolf teeth in a colts mouth and ought they to be knocked out?

Lancaster Co., Va.

J. E. CONNELL.

Yes, sometimes but not frequently. Wolf teeth are small supernumerary teeth which make their appearance just anterior to the first molar. They cause no inconvenience or injury to the horse. If it is decided to remove them a small pair of forceps should be used. Knocking them off is cruel and does no good.—Ed.

Worms in Turkeys.

Please tell me if you can in your next PLANTER some remedy for the long flat worm, presumably tape, in young turkeys? I lose some every year from this trouble. They commence to droop at the age of six weeks, have enormous appetites and death soon follows.

Mrs. W. T. BROCKENBROUGH.

Lancaster Co., Va.

Mix some turpentine in their food. If they will not eat it then make it into pellets and cram it down their throats. A drop or two in each pellet is sufficient at one time. It is best fed to them on an empty stomach.—Ed.

Lime—Alfalfa.

Please answer the following enquiries in your next issue:

1. Where can I get lime or land plaster? How much is it per ton? Can I get it by the bags or barrels? Can the lime be sowed with other fertilizers?

2. When is the best time for sowing alfalfa? How much per acre and what preparation?

S. E. BEALE.

1. Lime is advertised in our columns by a number of parties. Write them for quotations. The cheapest way to buy it is in bulk in carload lots. For agricultural purposes it ought always to be bought in this way. You should buy it at about \$3 per ton at most. We have information that it can be bought for this price delivered in Southside Virginia.

2. The fall for all sections of the South except in the mountains. We hope to deal fully with this question in our next issue.—Ed.

Vinegar Making—Tanning a Hide.

Will you kindly let me know through your paper what is the best way to turn cider to vinegar? Also the best way to tan a hide and retain the hair on it?

Albemarle Co., Va.

C. I. H. C.

Send to the Virginia Experiment Station, Blacksburg, for their Bulletins on Cider Vinegar making. These will give you much fuller information on the subject than we can find space for.

The hide can be preserved so that the hair will not come off by sprinkling the inside with a mixture of two parts saltpeter and one part of alum. Pulverize finely and sprinkle all over the flesh side. Fold the skin flesh side to flesh side and roll up and let lie a day or two, then with a dull knife remove the meat and fat if any on the skin and hang to dry. When about half dry rub and work to make the skin supple and continue this at intervals until the skin is dry.—Ed.

Abnormal Growth of Irish Potatoes.

I send by this same mail a potato set that is causing a good deal of amusement among our farmers. As you will see there are three well formed young potatoes attached but no sign of leaves or vines, nor has there ever been. This is not a single sporadic case, as one farmer in preparing to plant corn in apparently dead hills found as many as ten successive hills filled with these potatoes. We wish to ask an explanation for this. How can the young potatoes be so well developed with no leaves at all? Will they continue to grow, or as soon as the original piece is exhausted will they die? What a fine variety it would be if they will continue to grow. For once we would have the advantage of the bugs! I have replanted some to see how long they will grow and what sort of crop the anti-bug potato will prove.

Smyth Co., Va.

N. C. PRESTON.

We have seen a similar abnormal growth of Irish potatoes several times before but are unable to explain it. Evidently the young potatoes obtain their nourishment from the old set which instead of producing a vine and leaves is thus using up its substance. When this is finished the young potatoes must cease to grow any larger as they have neither roots nor leaves to convey nourishment to them. We are afraid there is no chance of perpetuating the variety and thus getting ahead of the bugs, as no plant can live long without leaves. They are the lungs of the plant.—Ed.

Hogs in Orchard—Fertilizer for Beans—Dairy Cow.

1. I have a young orchard sowed in clover, trees two and five years old, and would like to turn my hogs in the same, but have no time to fence around each tree, could I wash the trees with something that the hogs wouldn't touch them?

2. What's the cheapest and best fertilizer for beans (navy)?

3. Would you advise to raise a calf for milk cow from a young cow but two years old? The calf is nice and strong.

JNO. GIRETT.

Lunenburg Co., Va.

1. We know no wash that could be applied to the young trees that would prevent the hogs injuring them. The easiest and cheapest way to protect them is to buy a few yards of wire poultry netting and cut it into strips about four inches wide and put one these strips around each tree just doubling the wire ends into each other. The wire only cost about 4 cents per yard and a yard would make a protector for eight or nine trees which could be put on in a few minutes.

2. Use acid phosphate and muriate of potash, say 300 pounds of phosphate and 50 pounds of potash per acre.

3. Yes, if the mother and sire of the calf are of good dairy type and form.—Ed.

Preparation for Corn Crop.

I have a field that is planted in corn this spring, very good land, and it is desirable to plant it again next season, in corn, which is contrary to our usual rotation here, and would be glad to know if it would be practicable to sow either cow peas or German clover, just before plowing the corn the last time, and let it make all the growth possible until late this fall or winter, and then plow it again for corn in the spring. Would this growth of peas or clover, turned down as vegetable matter, keep up the fertility of the soil to the extent that the corn crop would exhaust it? The corn would be cut up in September, and the peas or clover would have several fall months to grow before the cold weather would set in. I thought that this amount of vegetable growth would to a great extent at least, tend to keep up the fertility of the soil, and stand another corn crop. The land will produce fifty to sixty bushels of corn without fertilizer, in a fair season. If you will answer through your paper will be under obligations. How much clover or peas to acre?

Augusta Co., Va.

JAMES R. KEMPER.

The growing of either cow peas or German clover will help the land to carry another crop of corn as either crop will supply humus to the land and add to the nitrogen content of the soil. Both crops, however, and cow peas especially, are large consumers of

the mineral fertilizers, phosphoric acid and potash, of which corn is also a large consumer and would not therefore recuperate to the land the mineral matter taken out by this year's corn crop, but probably your land is good enough to stand this draft if kept well filled with humus and well supplied with nitrogen. If you want to plow in the fall or winter for next corn crop we would not sow clover as the growth it would make would not be sufficient to warrant the cost or be of any practical use. If clover is sown the plowing should be deferred until late in spring, say April or May. Cow peas can be sown and be plowed down in the late fall or winter with great benefit and if 25 or 50 bushels of lime was applied after plowing down the peas this would make available sufficient of the phosphoric acid and potash in the soil to produce with the peas an average crop of corn the following year.—Ed.

Poultry House.

I am going to erect a poultry house with a coop for 1,000 hens and prefer one straight building with partitions and runs—have plenty of ground—please give me a plan keeping in mind plenty of room in runs and general convenience.

Anderson Co., Tenn.

GEO. MARGROVE.

You had better get the little book on Poultry Architecture by Fiske, price 50 cents, which we can supply. This gives a variety of plans to meet varied conditions. There is wide difference of opinion as to the best form of house to build. Our own views are wholly against one large house. We would always build a number of isolated houses to obviate loss from contagious diseases.—Ed.

Salt.

Will you please inform me where I can get the genuine Liverpool salt? Years ago I got it in 240 pound sacks. It did not get so hard as the salt I get now and I like it much better. J. M. SHANKEL.

Sullivan Co., Tenn.

Davenport & Co., of this city, used to import the Liverpool salt. We presume their successors in business, Saunders Sons Co., of this city, still do so and can supply it.—Ed.

Obstructed Teat of Cow.

About two months ago my cow, then fresh, injured one of her teats with her foot while getting up. The teat was much bruised and lacerated, but not cut to interior. I used a milking tube while it was sore. It has now apparently healed, but is much strictured at the tip. It is impossible to milk it without first in-

serting the tube. When the tube is withdrawn a small stream can be forced out. Kindly tell me what to do for it and oblige.

J. M. HARRISON.

Alexandria Co., Va.

You will have to have it opened by the use of an instrument called the hidden bistouri which cuts the sides of the gland. The enlarged opening must then be kept open by a dilator until the wounds are healed.—Ed.

Canning Snaps and Tomatoes.

Will some reader of the *PLANTER* please give me information in regard to canning snaps; also for canning tomatoes? I will appreciate very highly any reliable recipes given.

A SUBSCRIBER.

Pittsylvania Co., Va.

Destroying Horns by Caustic.

Please let me know at what age and how often you apply stick caustic to calves to prevent the horns from growing.

Albemarle Co., Va.

B. S. H.

The caustic should be applied as soon as the hard button from which the horn springs can be felt. This will be in a few weeks after birth. Clip the hair from the button and just around it and apply the caustic two or three times until the embryo horn is burnt out.—Ed.

Cow Peas for Hay.

We have about three acres in Irish potatoes upon which we put about 800 or 900 pounds of Baugh's 10 per cent. to the acre. I want to put the same piece of land in black peas. Do you think it best to mix anything with them, if so what and how much? Want to cut them for hay.

W. T. A.

Gloucester Co., Va.

We are strongly in favor of mixing sorghum with cow peas for hay. In our experience, and in this we are confirmed by a number of our friends, the mixture makes better feed as it is more nearly a balanced ration, makes a heavier yield and is easier to cure. Sow about half a peck of sorghum to the acre.—Ed.

Crimson Clover.

When Crimson Clover is sown at the last working of corn should it be sown before or after the plowing?

Franklin Co., Va.

SUBSCRIBER.

The Crimson Clover should be sown and be worked in with a cultivator, but not with a plow, as that would bury it too deeply. A cultivator and not a plow should always be used to work corn, and thus keep the surface level.—Ed.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The work of gathering the berries and early fruits and cutting and picking the early vegetables and shipping the crops to market, or preserving and canning them at home, will make the month a busy one for the gardener and trucker. See to it that crates and baskets are on hand and that they are clean and of standard size and make. Have all arrangements made with commission men as to time of shipment and as to the requirements of the different markets shipped to in the way of sizes of packages and consignments, also have complete arrangements made with the express and transportation companies so that no delay may occur in delivery. Let all shipments be made under a guarantee as to quality and mark the crates and packages plainly with the grade of contents. Do not mix first and second rate products, ship each separately and then the full value may be expected to be realised.

The planting of successional crops of beans, peas, corn, melons, cantaloupes, cucumbers, squashes, peppers and tomatoes must have attention to keep up the supply as the early crops are shipped or consumed. Keep the cultivators running in the earlier planted crops and encourage growth with top dressings of nitrate of soda where crops are not making the progress desired. Look out for insect pests and attacks of fungoid diseases and act upon the advice given in the spray calendar published in our March issue for combatting these. A vigorous quick growth of crops will do much to protect them from damage. Usually the crops which have received a check in growth are those attacked by insects and fungoid diseases.

When setting out tomato plants plant a hill of corn here and there in the rows. The worms will attack these in preference to the tomatoes and the corn can be cut and fed to stock and thus save the tomatoes. A row of mustard sown here and there amongst cabbage plants will save the cabbages from the attacks of the terrapin bugs. The bugs will settle on the mustard and this should then be sprinkled with kerosene and be burnt. Look out for potato bugs on the Irish potatoes and egg plants. Give them a dose of Paris green, Bug Death or Slug Shot.

Cucumbers for pickles should be planted. They may be set out either in rows four feet apart or in

hills three feet apart each way. Prepare the land well and fertilize with a complete fertilizer having about 5 per cent. nitrogen, 7 per cent. phosphoric acid and 8 per cent. potash. The wholesale pickle factories are always open to buy this crop and if not grown sufficiently near to a factory for delivery as gathered the "cukes" can be preserved in brine in barrels as gathered and then be shipped to the factory as required.

Celery seed should be sown this month. Select a piece of moist ground for the seed bed and prepare it finely and make rich with well rotted farm yard manure. Rake fine and smooth and then sow the seed thinly over the bed, rake in lightly then tread or roll firm, sprinkle with water and cover the bed with old bagging to conserve the moisture. Celery seed germinates slowly and must be kept in moist ground. As soon as the seed begins to germinate raise the bagging on sticks and so gradually unveil the young plants to the air and sun. Shading the beds even until the plants are nearly large enough to transplant is a good practise as it insures better plants. The last half of June is soon enough to sow the seed. When the plants are large enough to handle they should be transplanted into a rich bed, being set out about three inches apart each way and be allowed to grow on slowly until time to set them out in the rows or beds in August or September. The large white variety is the best to grow here.

Salsify seed should be sown this month. It will make better roots sown now than earlier.

Cabbage seed for the fall crop may be sown towards the end of the month or early in July. The mistake usually made is sowing the seed too early and the plants get eaten up by the worms in the hot weather.

The onion crop should be harvested as soon as the plants have completed their growth and the tops are dying. Pull the bulbs and throw them into rows and leave to dry for a few hours. Then place them in an airy shed to dry off a few days. Let them be got ready for market and be shipped as soon as possible as they should be sold before the Northern crop comes on the market. Southern grown onions will not keep over the winter like the Northern ones.

As soon as the strawberry crop is gathered if the

bed has stood two years plow it up and prepare the land and seed with cow peas or crimson clover. Begin to prepare other land for setting out a new bed. Land that has grown Irish potatoes makes a good place for this bed. If the old bed is to stand another year mow off the leaves and sprinkle straw on them and burn them. This gets rid of weeds and insect pests.

THE FRUIT CROP.

We have very varied reports as to the prospects of the fruit crop throughout this and the adjoining States. In many sections of Middle and Eastern Virginia, North Carolina and Maryland practically all plums, pears, peaches and early apples are destroyed. This also is the case largely in the Piedmont and mountain sections in the valleys. On the mountains, and in much of the middle sections of these States on high lands, the promise for winter apples and late peaches is good, though we hear considerable complaint of dropping of the fruit, no doubt as a result of the injury done by the late frosts. We should esteem it a favor if growers would report to us the prospect in their sections for publication in our July issue.

TRUCKING.

Editor Southern Planter:

Don't make the mistake of starting into the business of truck raising before you are ready. By so doing, you simply invite defeat, and a disastrous and expensive failure is, in the very nature of things, bound to be the result.

There are three, at least, "essentials," the absence of either of which will pretty effectually militate against any possible profit from either market gardening, or truck farming; these are:

1. A sure and remunerative market for the products when raised;
2. A thorough knowledge of his soil and its adaptability to the vegetables to be grown thereon, and an equally intimate knowledge of the plants he intends to cultivate, together with their cultural and plant food requirements, and
3. Rich land.

It is a waste of time to attempt the utterly impossible feat of raising profitable crops of tender, succulent vegetables on any but the very richest of land.

No matter how fertile the land may seem to be, good truck crops can only be grown thereon by high-manuring. While, in ordinary grain or cotton, or tobacco farming, one can, by a judicious rotation and by the free use of leguminous crops, get along with-

out the purchase of nitrogenous fertilizers, the market gardener must be lavish with his fertilizers, both nitrogenous and potassic. Nitrogen forces early growth and gives large succulent leaves and stems. Potash gives solidity and crispness and increases the sugar and starchy parts of seeds. Phosphoric acid tends more especially to develop the seeds of plants, hence the chief ingredient in a good fertilizer for vegetables of which the leaves or stems are the edible portion, is nitrogen. For root vegetables, phosphoric acid and potash are fully as important as nitrogen. For vegetables of which the seed is the edible portion, like the garden pea, for instance, phosphoric acid is the leading element.

For vegetables, like the tomato, potato, egg plants, celery, melons, etc., potash is the most important.

Nitrate of soda is the best form of nitrogen and the sulphate is the best available form of potash, for garden vegetables of all kinds, cotton seed meal, as a source of nitrogen, and the muriate as a source of potash, being next; kainit is altogether out of place in the garden or truck farm. Potash salts are just the thing for truck farming. The cheaper muriate of potash gives equally as good results on cabbages and beets as the more expensive sulphate, but the latter appears to be superior to the muriate in increasing yield of tomatoes, spinach, lettuce and onions. For vegetables, the controlling elements are potash and nitrogen; and very few of the brands of mixed fertilizers have as high a percentage of potash as most truck crops require. It is known on all sides that potatoes are dear lovers of potash, but it does not appear to be so generally known that the cabbage crop is also a potash eater; turnips come next and cauliflower third, in their demand for potash; hence, if a heavy yield of either is desired, they must be planted on soil that already has plenty of potash in it; or, plenty of it must be applied. No soil is naturally so strong that many good crops of vegetables can be raised in succession thereon, except potash be added just as often and just as liberally as nitrogen. We have this much to say about potash for the reason that, to our certain knowledge, many market gardeners limit themselves exclusively to manure obtained from city stables, and stable manure, let it be ever so good, is not a properly balanced fertilizer for vegetables and cannot bring best results. A good general fertilizer for all garden vegetables would be

150 to 225 pounds acid phosphate,

250 to 375 pounds sulphate of potash,

150 to 225 pounds nitrate of soda.

Mix phosphate and potash and apply previous to

planting, apply nitrate beside, or around the plants, after crop is up.

If ground is well supplied with humus, above amounts may be doubled or trebled with manifest advantage. In all cases, we most decidedly prefer to apply broadcast; and, by thorough preparation, thoroughly incorporate the fertilizer with the soil. This done, when drouth sets in, wherever the application was heaviest, there the crop will be the greenest, let the crop be what it may.

As muriate of potash and cotton seed meal are preferred by some, we subjoin the following mixture:

700 pounds acid phosphate,
300 pounds nitrate of soda,
750 pounds cotton seed meal,
250 pounds muriate of potash.

Mix, for one ton. Apply from 1,000 to 2,000 pounds per acre.

For Irish potatoes, leave out 150 pounds nitrate of soda, and add 150 pounds more of the muriate.

Mississippi.

G. H. TURNER.

TRUCKING NOTES—EASTERN VIRGINIA—NEAR THE SEA.

Editor Southern Planter:

May continues cool, with the exception of one or two days. The berry crop, usually moving in full force at this date (May 10), is moving very slowly indeed. Last year thousands of 60-quart crates of berries were sent to market in April. This year only one lone crate was sent in April, and the May shipments have been small, very small indeed.

April, 1904, was a normal month, as regards temperature, the average thermometer for the month being 56 degrees, which is the regular average temperature for the month for the past 34 years. But the month was preceded by a winter considerably cooler than the average, which kept fruit and early vegetables back at least two weeks.

April was drier than usual. The average April rainfall for 34 years being 3.82 inches; but April, 1904, gave us only 1.13 inches. The month was, therefore, not a very satisfactory month for our farmers and truckers. But very little corn was planted in April and the potato crop which was planted in March came up slowly and irregularly. The liberal rainfall of last night starts everything growing more rapidly, and we may now safely calculate upon regular growing summer weather.

Radishes are about done for the season. The shipments were large and the radish good crisp and ten-

der. The crop paid very well. It shows the open character of our winters when, in the coolest winter for many years, we could plant or sow radish in the open air from last of February to middle of March without serious loss from frost.

Lettuce is now running heavily to Northern markets. The crop is good, but is not heading up quite so good as usual, on account of the cool winter. The seed was sown thickly in beds last September, and covered with a thin layer of marsh grass, so thin that every plant could be clearly seen through the grass, and from these beds the lettuce was transplanted in March in the open fields. We saw one patch where the trucker had set out 175,000 plants and we could not find a missing plant in the entire field.

To show the intensity of truck farming, we may state that on the 22nd of February, 1904, we visited the same section in company with a delegation of Western farmers, and found the truckers, at that date, cutting and shipping spinach, young spinach, sown the previous September, at the rate of 100 barrels to the acre, and worth, at that date \$5.50 per barrel in New York city.

Last Saturday—May 7th—we visited the same fields and found them all set to lettuce, from which the truckers were just beginning to ship.

The lettuce was set out in narrow beds, four rows to the bed, and on the edges of each bed was planted a row of snap beans.

The price of lettuce this spring ranges from \$1.25 to \$2.75 per basket, and each basket holds from 25 to 60 heads according to the size of the heads.

After the trucker ships his lettuce, he will cultivate his snap beans, which in early June will be marketed, and on the same land, if he so chooses, he can plant corn and grow 60 bushels of shelled corn to the acre, thus making four crops from the same land during one year, viz.: Spinach, lettuce, snap beans and corn.

This is trucking intensively; and when general farming is carried on here, equally intensively, as it may be and should be, we shall see the "garden spot" of America. We need a few thousand "genuine, all wool, and yard wide" stock farmers. We need stock, stable manure, silos, deeper plowing, more thorough tillage, better implements, higher aims, broader views, and a deeper insight into the science of agriculture.

Norfolk Co., Va.

A. JEFFERS.

When corresponding with advertisers, kindly mention the SOUTHERN PLANTER.

Live Stock and Dairy.

FIGHT THE CATTLE TICK AND ENFORCE THE QUARANTINE LAW, IF YOU WISH TO GET RID OF THE QUARANTINE LINE.

Editor Southern Planter:

During the last two years I, as State Veterinarian, have talked with quite a number of stock men who live south of the cattle quarantine line through this State, and I have been impressed with the fact that nine out of ten of these gentlemen seem very anxious to have the Board of Control move the quarantine line further south, each individual wanting it south of his county, or at least his private farm. When I suggest that they first get rid of the cause for this line (the cattle tick, *Boophilus Annulatus*), their reply is that the ticks have nothing to do with the trouble, because they have always had them on their cattle.

Now the fact that this particular cattle tick is the carrier of the disease known as Texas fever, among cattle, has been proven, beyond all doubt, by professional men after years of study, with practical experiments. A description of the particular tick, together with its life history has been published in a bulletin by this department, therefore, it would simply be a repetition of what has been written in the past, to explain in this article how the cattle tick produces the disease in question. I state as a fact, which leaves no room for argument, as arguing always delays work, and work is what we want in order to get rid of the quarantine in this State, that the fever is caused by this particular cattle tick and that the existence of the cattle tick in the southern portion of this county caused the quarantine law to be passed, and the line to be established where it is, in order to protect the northern portion of the State and all the States north of this State from this infection, which was causing all horns, and no beef, to be raised in the southern counties of Virginia. The cause must be removed before the condition can be relieved, (you would not expect to get the soreness out of your finger until you had removed the splinter which was causing the pain?) You are all willing to acknowledge that the quarantine line through Virginia is an "eye sore" to the counties south of said line? Then just remember that this inflamed streak is caused by the existence of the cattle tick in your county, and get to work to first remove the cause of this law, and line, remembering that the condition can then be easily improved. However, it will take work, and time, to accomplish this end. You can get rid of these ticks by, first,

stopping all cattle from running at large on the commons, have a "no-fence" law, second, put no cattle where ticky cattle were last year. Look for and destroy every tick that you can find this summer. Use the sulphur, sodium chloride, and potassium nitrate mixture, which Mr. Cobbs, of Somerset, Orange county, Virginia, advised in the *PLANTER* some time ago. In fact, do everything that you can to destroy the ticks, and enforce the quarantine law, and as a sequel of your work, the quarantine line will be removed further and further south, until you will all be out of the infected district. J. G. FERNEYHOUGH,

State Veterinarian.

Experiment Station, Blacksburg, Va.

The point farmers overlook in this question is that only one particular cattle tick causes Texas fever. Your cattle may be covered with ticks but if this particular tick is not amongst them you will have no fever. If it is you will sooner or later have the fever and every cow which has not been rendered immune either by natural means, that is to say by having had the fever recently in a mild form or by inoculation which gives the fever in a mild form, is liable to die from it. Any cow brought from a section north of the quarantine line or from any place within the quarantine district where this particular tick is not to be found, and there are many such places, will certainly take the fever if these ticks get on to her unless she be inoculated before the ticks reach her. The removal of the quarantine line south of Virginia is well within the bounds of possibility if only farmers themselves will help in the way we have pointed out in the *PLANTER*. Let each man get rid of the tick on his own place and see that a "no-fence" law is put into operation in his section.—Ed.

RED POLLED CATTLE.

Editor Southern Planter:

It is difficult in the limited scope of a short article, to say all the things that can well be said, aye and repeated, about the dual purpose breed of cattle, Red Polls.

We take it for granted that all know the meaning of "dual purpose."

We have special purpose cattle, like the Jerseys or Guernseys, for production of butter. The Short Horn or the Angus for production of beef. The dual purpose combines both these qualities, and the Red

Polls are the leaders in that class. They will make profit in either the dairy or on the block.

We know a farm, called a "milk farm," the chief business of which is selling milk to the consumer. Red Polled cows are the ones used on this farm. The gentleman who owns and runs the farm told us that he was satisfied with the milk production from the cows, and his prime object is to get milk and a lot of it.

Another man who has been a successful farmer for sixty years, recently stated to us that in all his years of making butter, he had never made so much as he had in 1901, with the same sized herd. His cows are Red Polls, and during all these sixty years he has tried nearly all the recognized breeds.

Statistics and reports of slaughter tests show that the Red Polls make beef of the very finest quality. Also that these animals dress nearly if not quite two-thirds of their live weight.

We know from personal experience that it costs no more, and in fact not so much, to feed our Red Polls and keep them in proper condition, as it does to feed our Jerseys.

We also know that Red Polled calves can easily be made to weigh from 800 to 1,000 pounds at one year old. We shipped a registered Red Polled bull calf to a customer in Mississippi, not long ago. The calf was seven months old and weighed 525 pounds. He was kept growing. We never stuffed him or forced him. In fact four months of that time he was in pasture, and had not a spoonful of grain. Red Polled cows weigh from 1,000 to 1,400 pounds. Bulls from 1,500 to 2,200 pounds.

Here is another (a minor point). We never yet had to teach a Red Polled calf to drink. The first chance they get at a pail of milk, they stick their heads into it and "they're off."

These cattle are hornless, very docile and gentle. Extremely easy to handle. In color, a rich dark red, little white on tail tip. Udders and teats of good size.

The Red Polls have been derided, snubbed and held up to ridicule times without number. It has only served as a good advertisement for the breed. They are good enough to stand on their own merits. The demand for them is steadily increasing. They are gaining the confidence of the farmer. What is farming but a general purpose business? Why does a general purpose farmer desire a special purpose breed of cattle? Sometimes the price of butter is so low that it does not pay the farmer to make it. Then why not make beef? Sometimes the price of beef is so low that the farmer cannot realize a conservative profit. Then why not make butter? If he is well

stocked up with Red Polled cattle, he has the correct answer to both questions. W. A. SARGENT.

Albany, Vt.

POLLED DURHAM CATTLE.



The above picture is from a photograph of three Polled Durham calves bred by Mr. Jno. S. Funk, of the Glen Farm, Singers Glen, Va. Mr. Funk has a fine herd of Polled Durhams headed by a Blood Red sire weighing 1,650 pounds, two years old past. Polled Durhams are a very desirable dual purpose breed, having all the good qualities, both milking and beef making, of the best Shorthorns. Being hornless they commend themselves to those parties who have a prejudice against horns.

REMEDY FOR NODULAR DISEASE OF SHEEP.

Editor Southern Planter:

On page 328 of the May issue D. J. Waller, of Spotsylvania county, Va., says his sheep have died this spring and he found on examination their intestines covered with small nodules, which you say is a disease commonly known as "knotty gut." Your diagnosis is correct, but your reply as to treatment has not been my experience. I am not going to take issue with you, but merely to give my experience for the benefit of Mr. Waller and others who may be so unfortunate as to get this disease in their flock. Three years ago my sheep got droopy and began to die and it did look as if the whole flock would die before I could get anything to stop the disease whatever it was. I was a subscriber to the American Sheep Breeder and having read about "knotty gut" being so fatal among sheep, I butchered a lamb and examined its intestines and found them covered with such nodules as Mr. Waller describes. I immediately ordered by express a can of Toxaline, the new remedy

I saw advertised in the Sheep Breeder. By the time it arrived I had lost thirty-two head and half a dozen were at death's door. I commenced immediately to give the Toxaline by directions and did not lose another one of the flock except one ewe that got strangled and died in less than a minute after drenching. Since then I keep the remedy on hand and whenever a sheep begins to droop or has a hacking cough I give it a dose of Toxaline and through the winter and spring I give my sheep Summers worm powders about once a month, which keeps the worms in check. Once a flock has become infected I doubt very much whether the disease can ever be eradicated, but by the use of these remedies I am satisfied it can be kept in check so as to do no appreciable harm to the flock. Sending the flock to the butcher would do no good if other sheep were bought and placed on the same pasture or barn.

A. J. SMITH.

Laurens Co., S. C.

We are glad to hear of this remedy for the "knotty gut" trouble. It is the first time we have heard of any remedy being effective and we have had a life time experience with sheep. The veterinarians are so far as we know all of opinion that remedies are of no avail. The worm is so encysted in the nodules that no medicine can reach it. However this may be, our correspondent's testimony is satisfactory as to the effectiveness of the remedy named in his flock.—Ed.

REMARKABLE MILK RECORD OF JERSEY HEIFER.

Editor Southern Planter:

I hand you for publication a picture and sketch of



one of my herd of Jerseys which has quite an uncommon milk record. I ask you to publish this to show

to your readers that we have some good dairy cows in Virginia. I have been breeding Jerseys for a great many years. Commenced by buying a few cows and a bull, the best I could find, and have bred and retained in my herd the best.

"Lady Madelin," the heifer in question, is entitled to registration. Her dam Madelin Mapp, herd number 85299; her sire Tenor, herd number 59277. "Madelin Mapp" is a very heavy milker, not tested. Tenor was sold to the Virginia Polytechnic Institute to head their herd. Madelin Mapp's dam, Thorncliffe Pet, No. 69880, gave 16 pounds of butter in seven days. Tenor's dam, Rioters Prima Donna, No. 45692, gave 5 pounds of butter from four milkings. I never tested her for a week.

"Lady Madelin" represented in this picture, weighs 585 pounds, and gave in 30 days during the month of April 782 pounds of milk, and for the seven days just past (May), 196 pounds milk, and has a bull calf dropped March 4, 1904, by Coquette's John Bull, No. 63980. I have not tested her milk but the butter fat of the milk of my herd (an average sample) is 4-6-10. You will see she is quite a wonderful milker. She gave nearly 200 pounds more milk in a month than her own weight.

Prince Edward Co., Va. A. R. VENABLE, JR.

DO GRADE DORSET LAMBS BUTCHER WELL?

Editor Southern Planter:

The above query has been sent to me by a reader of the SOUTHERN PLANTER. It gives me pleasure to present a few facts that have come into my possession.

It is well known that Dorset ewes lamb in the fall and many Virginia sheep breeders who want lambs just as early as possible have seriously considered the advisability of using Dorset ewes in their breeding flocks. The purebreds are most too expensive yet for stock sheep, but as high grade ewes are found to lamb with great regularity in December, they have been buying Dorset rams and introducing Dorset blood. Many have had good success, but it seems that in one or two counties in the State that buyers of market lambs, who in some instances, to my certain knowledge, have been interested in other breeds, have advised certain farmers against the use of Dorset rams, by telling them that the grade Dorset lambs do not butcher well.

I have handled Southdown, Shropshire and Dorset lambs. As purebred sheep, I must admit that the

Southdown is the finest mutton sheep on earth and I notice in the carcass tests in our big fat stock shows in England and America the Southdown is more frequently at first place in spite of the fact that other breeds have double as many entries. In spite of this fact, however, the raisers of early lambs found it more profitable to use Shropshires or Hampshires than Southdowns. I would be willing to say that any of these three breeds would butcher better than the purebred Dorsets, as they have been bred for a longer time with this one thing in view. The Dorsets are rapidly pushing to the front among the mutton breeds. Twice in this country a Dorset has taken sweepstakes over all mutton breeds in large shows. This happened last at Omaha, when a Dorset ewe was named the best sheep in the show.

But leaving this to one side, I beg to say that some of the finest types of mutton lambs I have ever seen are the Dorset-Southdown and Dorset-Shropshire crosses. My own personal experience will enable me to answer the query directly. Some years ago, as a matter of interest, we were testing Dorset and Shropshire rams for producing market lambs, using the same type of ewes, highgrade Southdown and Shropshire. For three years the Dorset lambs were the winners on the scales. One year the Dorsets averaged five pounds more per head. A Shropshire man who saw them weighed remarked that he believed they would lose this advantage when butchered. I thought it would be well to investigate, so I marked the carload carefully and shipped them to a well known firm at Jersey, asking him to follow up the butchering of this fine carload and report. The load was an extra one, averaging over 80 pounds. I have the report on this load, which was bought and butchered by two of the best firms in New York city. The report states that no finer lambs had come to the market that season than the Dorset lambs of that load and that the best carcasses in the load were among the Dorsets. This seems much to the point.

References to the prize lists of the Great Fat Stock Show at Chicago for 1901 and 1902 will show that in the carcass contest for lambs in which all breeds were entered and with from thirty to forty entries, more than half of which were either purebred or grade Shropshires, grade Dorset lambs got into the money both years, winning second and third place. The grade Dorset lambs were either Dorset-Southdown, or Dorset-Shropshire crosses. Not more than three of these grade Dorsets were entered. For these to have taken second and third place among so many entries speaks volumes for the grade Dorsets, and I

beg my enquirer to notice that the test was on the block. Winners of first prizes were a Southdown and an Oxford purebred. I did not see the report of this show last December, but I would not be surprised to know that Dorset blood was to the front again.

Some might remark that it was the Down blood that made these lambs winners. I think that much could be said to show that it was more the combination. To say the least, the Dorset blood did not keep them from winning.

At two of our leading agricultural colleges Dorset ewes are kept to produce this Dorset-Down cross, which is becoming a prime favorite with the butchers.

Maxwelton, W. Va.

H. B. ARBUCKLE.

DORSET SHEEP.

Our correspondent Mr. H. B. Arbuckle, of Maxwelton, W. Va., writes us that he is about to sail for England as the representative of the Continental Dorset Club to purchase a flock of Dorset Sheep for importation into this country. He will sail on the 4th June and will be glad to hear from any parties who may desire sheep, either Dorsets or other pure breeds bought in England. This will afford a good opportunity for securing fine stock to head the flocks of our Southern breeders. Any stock bought will be personally selected by Mr. Arbuckle, who is an excellent judge of sheep, and will receive his attention and care until delivered to the owners here.

ADMINISTERING BENZINE OR GASOLINE TO SHEEP.

Editor Southern Planter:

Having been asked to give more detailed information about administering gasoline to sheep to rid them of stomach worms, I will for the benefit of those who may desire to try the remedy this summer offer the following suggestions:

1. Use gasoline instead of benzine. The two substances are almost identical, being the products of the fractional distillation of petroleum. Gasoline is the more volatile, seems to act more quickly, and is cheaper.

2. Instead of milk flaxseed tea can be used for making the dose. In either case use about six ounces.

3. Never give over one ounce of gasoline, which is about one large tablespoonful, to a grown sheep; half this amount to a sixty pound lamb. Shake well before giving the dose and *do not force the dose*. Give the sheep time.

4. Never stand the sheep up on the rump or throw it down on the side. You want the dose to go at once to the fourth stomach, where the worms are. Experiments conducted by the United States Agricultural Department show that when a sheep is standing almost the entire dose goes at once to the fourth stomach.

Push sheep back into a corner of the shed, stand straddle of the neck, with left hand hold the sheep by lower jaw with head just slightly elevated and with right hand bring drench bottle carefully into the mouth just after you have shaken it well. If you have a rubber tube in mouth of bottle, you can check flow of dose by pinching rubber tube, if sheep struggles. Don't take any chance on rushing dose into the lungs, as it will prove fatal.

5. Keep a bottle of aromatic spirits of ammonia near by, so that you can at once give the sheep two teaspoonsful, if it is much affected by gasoline. Sheep with pleurisy or heart trouble are often seriously affected. A hypodermic of strychnine would be a good remedy in case of heart failure.

6. Fast sheep fifteen hours before giving first dose. Turn out to grass two hours after gasoline is administered. Fast twelve hours before next dose. Turn to fresh pasture, where there is no water standing in low marshy places.

7. Do not give gasoline to sheep, unless you are sure it is necessary, as it is in no sense a tonic and does not of itself do sheep good. If your sheep are healthy, the lambs fat, and there is no hacking coughs, harsh fleeces, pale skins, do not think of giving gasoline.

8. Gasoline will not cure knotty guts, but may expel the worms that are not yet encysted. (More of this in a later paper.) Gasoline may not kill stomach worms, but there is abundant evidence that it expels them. Gasoline will not expel tapeworms and will not expel hook worms of the intestines.

9. The objections to gasoline are numerous. Chiefly, it must be administered, at least, three times, and it causes great distress to the sheep.

10. A one per cent. solution of coal tar creosote has given good results as a substitute, but there are objections to it. At present the subject is receiving attention from many quarters and the outlook is promising.

H. B. ARBUCKLE.

Maxwellton, W. Va.

When corresponding with advertisers, kindly mention the SOUTHERN PLANTER.

SOW EATING PIGS.

Editor Southern Planter:

I read with much interest "Subscriber's" communication from Dinwiddie county, and your reply relative to sow eating pigs, and thinking that my experience might be of interest to some of your readers and "Subscriber" particularly, I give it to you.

I bought a very fine Duroc Jersey sow last summer in Ohio. She was being prepared for the fall shows, and was very fat. I had her bred and shipped home, and she was fat enough for the show ring when she farrowed. She ate all the pigs except two, which we managed to get away from her before she got her mouth on them. As she was a very fine animal, I did not want to make pork of her, so I began to enquire of old breeders what they did in such cases. There was a consensus of opinion that only fat sows would eat their pigs, and that if fed very sparingly for a couple of weeks before farrowing time, there would be no trouble. I bred the sow, and two weeks before she was due to farrow I put her in a pen by herself and fed only one small feed of swill daily, and the day she was to farrow gave the swill hot. She farrowed 9 pigs in January and proved to be one of the best mothers I ever owned, raising the entire litter in spite of the awful weather conditions, and not a "runt" in the bunch. As the Duroc puts on fat fast, I found this spring all my sows in "show" condition at farrowing time, so I adopted the same plan with them all, and not a sow had a mishap or ate a pig. As you say, the sows at farrowing are in a fevered condition and a heavy or even regular feed only helps to heat and excite them. I feel quite sure if "Subscriber" will put his sow up for two weeks before farrowing time and the day she is due feed the swill hot, feeding only one small feed a day, that he need not make pork of her, and she will not eat the pigs.

WM. G. OWENS.

Chesterfield Co., Va.

Corn Stover for Cows.—Corn meal 280 pounds, wheat bran 392 pounds, fed in connection with 2,374 pounds of corn stover produced at the Wisconsin Experiment Station 1,120 pounds of milk, from which 57 pounds of butter were made.

One Ton of Cottonseed, according to tests made by the Mississippi Experiment Station, will produce about one-sixth more beef than a ton of corn, and a ton of cottonseed meal will produce about twice as much.

The Poultry Yard.

AUSTRALIAN EGG LAYING CONTEST.

Last year we published the results of an egg laying contest conducted in Australia. The contest has been repeated again in 1903-1904, and the results have just appeared. We take the following notes upon it from Commercial Poultry. In the contest this year there were several pens of American birds entered and two of them have come out high in the list of producers. The following 5 pens of 6 pullets each produced the highest number of eggs:

R. E. Warren, Silver Wyandottes.....	1,308
W. Wild, Black Orpingtons.....	1,274
W. F. Evenden, Andalusians.....	1,242
C. A. W. West, White Leghorns.....	1,225
Mrs. A. H. Hansel (American) Rose C. B. Leghorns	1,203

These were the only pens which laid more than 1,200 eggs in the year, and it will be noticed that they were representatives of five different breeds.

Mr. R. E. Warren's winning Silver Wyandottes laid steadily and well from start to finish. At the end of the first six months they stood sixth, but gradually overhauling the leaders, they went to the top at the end of February, and finished with 34 eggs to spare. An important factor in their success is that they went right through without breaking into moult, but this must not be allowed to detract from their magnificent record of 218 eggs per hen. To show the value of breeding from proved layers, Mr. Warren states that they were bred from a pen of hens that averaged 214 eggs in a year. Like all the other successful Silver Wyandottes, they are smallish in size and have been moderate eaters throughout. An offer of £50 for the pen has been refused.

The American competitors have amply justified their acceptance of the committee's challenge to send better layers than those that had been tested here. Two of the three pens from the United States have exceeded by 90 and 48 eggs respectively the best record in the first competition, while the three have laid in the aggregate 53 more eggs than the three leading pens in the first test. The merit of their performance can only be adequately gauged by those who know in what bad condition the American hens entered the contest after the long voyage, and their achievement is enhanced by the fact that most of the hens moulted three times in the twelve months. Mrs. Hansel's Leghorns are among the classic band of 200 egg hens, and as profit givers made their great tally of eggs on half the average quantity of food con-

sumed by the whole of the pens. Mr. Hays' White Wyandottes have proved themselves ahead of any pens of the breed yet tested in Australia.

The conspicuous feature of the general success of the competition is that the production per hen increased from 120 to 163 eggs, as compared with the first test. No less than 15 pens eclipsed the record of 1,113 eggs with which the Grantham Poultry Farm won first place last year.

"The success of the competition, reports Mr. Thompson, "augurs well for future work in connection with the improvement of the egg production of the State. This work is making good and practical progress as a direct result of the object lessons which these public tests afford.

"Our egg yield showed an enormous increase over that of the first competition, from the following causes: A more favorable season, improvements in attention and feeding, and last, but not least, by the work of the competitors themselves in improving their laying stock and in the earlier breeding and maturity of their birds. Notwithstanding that the general average of eggs produced was so much larger than in the first competition, and the totals of the leaders this year are far away ahead of those of last, it is satisfactory to note that competitors, who have taken part in both tests with the same breed, have in most instances improved their production.

"The hens have been fed on the simplest diet possible throughout the competition. The morning meal consisted of bran and mash at 7 o'clock. The mash was scalded with liver soup two days a week, and on the other five days it was simply mixed with water, the quantity given being an average of about one Imperial pint per pen, the big eaters taking considerably over the pint, and the small eaters a little under. In the afternoon, between 4 and 5 o'clock, the hens were grain fed, one pint, more or less, according to appetite, of crushed maize and sometimes wheat. Cut up liver was given twice a week, at the rate of about two ounces per head. Shell grit was always before them, and clean water was given every morning. In the way of green food, rape was fed for three months during the winter, when the grass was withered. For the other nine months the only green food the hens got was the natural grass in the pens. The rape was fed whole in the leaf, at the rate of about a dozen leaves to a pen every second day.

"The grain used consisted almost exclusively of crushed maize throughout the year. This shows the fallacy of the theories of most authorities in England and Australia, who condemn maize feeding for laying

hens. Americans discovered simultaneously with ourselves that maize is a much-neglected poultry food. The demonstration of its value is alone worth thousands of pounds to a maize-producing State like New South Wales. Although we fed successfully on maize alone, we do not advocate feeding on that principle if wheat can be as cheaply obtained. But as soon as wheat is higher in price we have no hesitation in using maize exclusively. At equal prices we prefer its use alternately with wheat; but we prefer good crushed maize to inferior wheat at all times. By inferior wheat we mean any but the best milling grain."

"The monthly laying was: April, 1,284 eggs; May, 3,124; June, 4,821; July, 6,636; August, 8,577; September, 8,476; October, 7,834; November, 6,608; December, 6,249; January, 5,804; February, 5,103; March, 4,056. Grand total, 68,572 eggs, or 5,714 dozen from 420 hens.

"The market value of the eggs was £373 15s 2d (\$1,869), from which deduct cost of feed, £122 0s 8d (\$610), and a profit of £251 14s 6d (\$1,259) is left on the cost of feed, the pen returning the smallest value leaving a margin of 6s per hen (\$1.50)."

PIP IN CHICKENS.

Editor Southern Planter:

The crust which is seen on a chicken's tongue when it has pip, is generally taken for the disease itself, whereas it is only a symptom of the disease. Pip is a disease which attacks the digestive organs of chickens, the stomach, the bowels, and it also affects the tongue. It is generally contracted from taking cold, improper feed, and other causes, which, to use a popular expression, gets the stomach out of order. In severe cases the whole body is affected, the functions of all the other organs is depressed, and if the body has not strength enough to throw off the disease the chickens will die. The tongue, on which the disease is generally noticed, suffers from inactivity, the superficial epidermis, which falls off continuously in the healthy chicken, is only partly removed, hangs on here and there, thus the saliva causes the parts to stick together and they form a crust on the tongue. If this becomes so thick that it interferes with the taking of feed, it may be removed if it can be easily done, otherwise it is cruel to do it.

The sick chickens should be separated from the others, kept in a dry and warm room and be given soft lukewarm feed with a dash of a condition powder. A mixture of 8 parts pulverized rhubarb, 2

ginger, 2 licorice and 2 gentian can be recommended. The mouth should be painted twice a day with a 4-5 per cent. solution of potassium chloride. If the chickens sneeze, let them inhale the fumes from a few drops of tar put on a hot brick. With the necessary care and plenty of fine grit, bone, sand, etc., the chickens will soon be all right again.

H. WINKELMAN.

District of Columbia.

REMEDY FOR SICK TURKEYS.

Last season, while experimenting with ailing fowls, I discovered that spirits of turpentine is the best remedy, by far, that I have ever used or ever heard of being used for sick turkeys. The drug must be used sparingly, for it is a strong medicine and young turkeys are very delicate. Sometimes a little one will tumble over after a dose has been given and seem to be dying, but leave him alone; he will get over the bad effect after a little while and jump up and run away to find his mates. The next time he is seen a great improvement will be noticed. When a number of turkeys in one flock begin to look droopy, the most convenient way to administer the turpentine is to mix a little with the feed. Place before them, when they are hungry, about ten drops to half a pint of feed; but experience quickly teaches the practitioner how to use it in the best way. If too much is used in the feed they will refuse it. It is sometimes necessary to catch the turkey and drop a little of the medicine down his throat—one drop for very small birds and two, three or four for larger ones. It is good for them from a few days old to half grown. It is a particularly fine remedy for the bowel trouble that carries off so many young turkeys every year. If intelligently used this remedy will doubtless prove a great blessing to all who are struggling with the problem of how to save the lives of young turkeys.—C. Boyden.

BEST FOR LAYING HENS.

Get ready now for a full supply of properly cured clover or alfalfa hay for next winter. If you cannot grow it look about you so that you can buy it. Clover or alfalfa hay to be the best for the hens should be cut at least a week sooner than it would naturally be cut to be cured for hay for market. In other words, cut early while the stems are tender. In this way, if nicely cured, it will be green clover or green alfalfa hay, and not dark brown or black as it is often seen.

The Horse.

NOTES.

Secretary Percival Hicks, of the Southside Agricultural Association, North, Mathews county, Va., has issued prospectus of the Southside Futurity for foals of 1904, the guaranteed value of which is \$100. The event is to be decided at the 1906 fall meeting of this Association. Any foal owned by any citizen of Virginia may be nominated on payment of \$1. Nominations close September 1, 1904, and 20 foals to nominate. This stake is an indication of the interest in harness horses that prevails in Mathews and adjoining counties, and doubtless the response from breeders there will be liberal.

Two very handsome and promising yearlings are owned by James Cox at Belgravia Farm, Mt. Jackson, Va., both of whom were sired by Kelly, 2:20, full brother to Expressive, 3, 2:12½, by Electioneer from famous thoroughbred Esther, by Express. One of these youngsters is a colt out of Charia, by Ax-teloid, second dam a sister to Charlie C., 2:13½, by Sam Purdy, and the other is a filly from Frances S. Dayton, 2:27½, by Cadmus, Jr., next dam the great brood mare Daisy Dayton. The colt is on the mare order, and promises to develop grand size and with it both speed and race horse quality.

The fine mare, Florence Miles, 2:21½, by Prophet Wilkes, dam by Red Champion, owned by Free Bridge Commissioner R. C. Broadbush, of Manches-ter, Va., recently dropped a bay colt by Great Stakes, 2:20, and bred to Kelly, 2:27, the son of Electioneer and famous Esther. In addition to Florence Miles, many other good mares have been mated with Kelly, and indications are bright for the bay stallion to be favored with the choicest lot of matrons ever sent to the court of one horse in this section.

President J. T. Anderson, Secretary W. O. Warthen, and Manager C. W. Smith, of the Richmond Horse Show Association, are making extensive preparations for the fourth annual exhibition, the dates of which are October 18th, 19th, 20th, 21st and 22d. Entries close October 4th, or two weeks ahead of the show, and the indications are that a number of the greatest show horses in America will be seen here then.

C. A. Pusey, veteran trainer and driver, of this city, who has brought out a number of good horses since his first association with the Blue Bull mare, Lona Guffin, 2:23½, back in the early eighties, is still in the game, and will take the brown pacing gelding,

The Spaniard, 2:19½, by Castleton, down the line this season. The Spaniard is entered in several important early closing events, among his engagements being the 2:20 pace, purse \$2,000, at the Narragansett Park Grand Circuit meeting.

In Lepanto, the big, handsome son of Petoskey, Bannister and Rhodes, of Roanoke, Va., are offering the breeders of that section the services of a trotting stallion whose claims should not be neglected. Petoskey is standard and registered himself, and has shown his potency in siring standard speed. As a yearling, he swept the show ring in the Blue Grass region of Kentucky, and while still in his colthood was sold from there and brought East. Lepanto was sired by Petoskey, one of the best sons of George Wilkes, and through his dam he gets the potent thoroughbred blood of Lexington, a refining factor in a number of trotting pedigrees.

Col. Barton H. Grundy, of this city, owns a grand looking horse in Javanais, the imported French Coach stallion by Agnadel, dam Rapide. Javanais was formerly owned by the Hon. Joseph C. Sibley, one of the most advanced students of breeding in America, who thought so highly of the brown stallion that he bred many of his mares to him. The large handsome son of Agnadel is in the stud at A. Pollard's Dunraven farm, near Richmond, where he will make the season. Upon request, either Col Grundy or Mr. Pollard will forward an interesting stud circular of Javanais.

Robert Ransom, 2:29½, the brown stallion by Gambetta, dam Black Maria, by C. M. Clay, Jr., bred and owned by Joseph Lassiter, of this city, died here recently, his death being due to an attack of acute indigestion. Robert Ransom was foaled in 1887, and passed the greater part of his life in the stud.

C. Klocke, of Woodville Farm, Crewe, Va., has lost by death from influenza the brown stallion Northwood, by Norfolk, dam Maggie A., by Choro-es. This horse had recently been purchased by Mr. Klocke from Joseph Lassiter, of this city. Northwood was bred by the late H. C. Chamblin, at Whitty Farm.

Robert Bradley has leased to Bolling Island, Stokes, Va., the handsome thoroughbred stallion Ray S., by Imp. Speculator, dam Helianthus, by Hyder Ali. He will be used mostly as a sire of hunters and jumpers, for which he seems well fitted, having fine size, good muscular development, and an even temper.

BROAD ROCK.

Miscellaneous.

ON WHAT DOES THE FERTILITY OF A SOIL DEPEND?

Editor Southern Planter:

It is a well known fact that the crops which a soil under general farming conditions profitably produces are limited to certain crops for each soil. We speak of wheat soils, rye and barley soils, of potato and sugar beet soils, etc., with the understanding that these soils are especially adapted to producing these crops, and that these crops are the leading crops for those soils, and on which the farmer can depend. With manure and fertilizers we can increase the yield of crops, but we cannot change the adaptiveness of a soil for certain crops—that is to say, we cannot change a rye or barley soil into a wheat soil or a potato into a sugar beet soil, though under very favorable conditions a satisfactory yield of these crops may, off and on, generally once in a rotation be obtained.

The better yield of one or two crops on a soil over all other crops, all the properties of the soil being represented so to speak in that crop, has been used abroad to classify the soils according to crops. It is something permanent, not subject to changes, for even the poorest treatment of a soil, though it may considerably reduce the yield of that crop, does not rob the soil of its adaptiveness for it.

The yield of crops, good physical conditions provided, is generally attributed to the difference in the amount of plant food. There is no doubt that the rich diked marsh soils bordering the North Sea, contain more plant food than most upland soils, and a clay soil more than a sandy soil. But this does not explain why a sandy soil, if it is provided with all the plant food the loam and clay soil possesses, does not produce the crops indigenous to these soils. It occurred to me that whilst the larger quantities of plant food applied to sandy soils on farms with a very intensive management were entirely insufficient compared with those contained in the clay and better loam soil, possibly by doubling or tripling the quantity the crops could be grown. Experiments which I undertook to test this showed that I was mistaken. It then occurred to me, that possibly the inability of sandy soils to produce the crops was probably due to the inability of the plants heretofore grown on heavier soils, to take up food on sandy soils. Owing to the greater fineness of the prevail-

ing clay soil grains on the heavier soils the roots would come in contact in the heavier soils with a greater number of soil grains, and it would probably be necessary for plants to adapt their root system to the coarser and therefore less numerous grains of the sandy soils before the plants could take up the food contained in these soils. But, as I will show later on, this also proved to be wrong. I was then almost ready to give up the problem when I thought of one more explanation. Was it not possible that the poor growth of crops indigenous on heavy soils if grown on sandy soils, however well they were fertilized, was due to the inability of the soil grains to supply the plants with food? Was it not possible that plants could take up food, with the exception of nitrogen, from the soil grains only, that the grains must contain the food, and that the applied food must first enter into an available compound with the soil grains before it could be taken up? And was it not also possible that if the applied food could not do this, due to the chemical composition of the soil grains, that it could not be taken up at all by the plants, no matter how much of it was preserved in the soil?

To test this to see if the quality of the soil grains would influence the assimilating of food by plants in the presence of large quantities of it, I selected a gray loamy sand, which heavily manured, would produce a poor crop of red clover only. For improving the quality of the soil grains I selected a very stiff red clay, and for decreasing the quality, quartz flour. The check soil after it was mixed in certain proportion with the clay and quartz flour, was filled in eight inch pots, ten pounds in each pot. The soils were mixed in the following proportions:

- Pot 1. 9 pounds check soil, 1 pound clay.
 - Pot 2. 9½ pounds check soil, one-half pound clay.
 - Pot 3. 10 pounds check soil.
 - Pot 4. 9½ pounds check soil, one-half pound quartz flour.
 - Pot 5. 9 pounds check soil, 1 pounds quartz flour.
- To the pots containing the clay were added 40 grams dry cattle manure, 15 grams lime, and to each of the other three pots, 3, 4 and 5, in addition, 3 grams hardwood ashes, 100 c.c. of a very rich liquid manure. These quantities correspond approximately for the two pots to the following quantities per acre: 12 tons manure, 2,000 pounds lime, and for the three pots in addition 400 pounds hardwood ashes, 700

gallons liquid manure, more than sufficient to produce a good crop of clover.

When the soil had been moist, the lime and ash was added, and the soil kept mixed for four weeks to give the lime time to act. The manure was then applied and also given four weeks time to decompose. The liquid manure was finally added, and two days later red clover sown. The pots were kept in the cool part of a green house approaching outdoor conditions. The result was:

Pot 1. One pound clay, extra fine clover.

Pot 2. One-half pound clay, fine clover.

Pot 3. Check soil, poor clover.

Pot 4. One-half pound quartz flour, poorer clover.

Pot 5. One pound quart flour, very poor clover.

Plants came up and stood still, some died out.

The results of this experiment are very interesting in so far as they show that plants can be surrounded by large quantities of easily available plant food and still suffer from want of food, because the conditions are such that the plants cannot take it up. The results indicate that plants take up food from the soil grains only, that the soil grains therefore must contain the food the plants need and that the applied unnatural food will only benefit the plants if it can enter with a sufficient number of the soil grains into the available food the growing crop needs. The soil grains may contain food and the applied mineral food may combine with the soil grains, foods which will produce good yields of probably half a dozen other crops, but if the soil grains, directly or indirectly, cannot supply the growing plants with the proper food, the plants will make a poor crop only. We know that some soils produce a splendid crop of rye, but a poor crop of wheat; that good pea are poor bean soils, and that the best potato soils seldom produce good beets.

The experiment also shows that the fertility of soils increases with the increasing number of clay grains, the most profitable percentage varying, however, with the quality of the other soil grains, with the climate, the altitude and general farming conditions. The profitable limit is generally reached with the beginning difficulty in tilling the soil, or keeping it in a good physical condition, and in the resistance it gives to the development of the weaker rooted plants. It is, however, not always the soils which contain the greatest number of clay grains, though they are the most fertile, that are also the most profitable. In some soils the different kinds of grains, clay, silt, sand, are so well balanced that they produce certain crops of such superior quality

and of such large yields that the profits derived from these crops compare very favorably with those of the more fertile soils. That there is a difference in the amount of available mineral matter in different soils is shown by the application of highly nitrogenous fertilizing material. On heavy soils richer mineral food, and larger quantities of nitrogen can be applied with better results than on the lighter soils. Nitrogen food on these soils unbalances the mineral food, causing a rank growth of the stems and vines and an inferior quality of growth of grain and seed, which often even applications of mineral food cannot always overcome. As the applied nitrogen is taken up directly by the plants and the mineral food indirectly has first to combine with the soil grains, the different effect is easily understood.

Whether well decomposed organic matter can take the place of soil grains in supplying plants with food, only to a certain extent, or if it is only beneficial to the soil as a source of carbonic acid and nitrogen, in making the soil loose and porous and increasing its water holding power, remains to be seen. To judge from the vegetation on peat bogs, where we are able to increase and change this vegetation by manuring and fertilizing, it seems that decomposed organic matter can take the place of soil grains. The crops which can be grown on well decomposed peat are, however, comparatively few. The hay, straw and grain is of a very inferior quality, poor in sugar and starch, very light weighted and possesses little feeding value.

I have, of course, no proof that plants can take up food from the soil grains only. But the results of the experiment, as well as the daily experience of thousands of farmers show, that the fertility of a soil increases with the increasing quality of the soil grains. A sufficient percentage of the soil grains must possess the food the growing crop needs or have the ability to combine with the applied mineral food to supply the kind of food the crop needs. If the soil grains, due to their chemical nature, cannot do this, or not in sufficient quantities, the crop cannot be profitably grown, no matter how much mineral food is applied to the soil.

District of Columbia.

H. WINKELMAN.

HAWKS AND CROWS.

Editor Southern Planter:

In the May number you and Dr. Snead take issue on the status of the crow. The Doctor has it in for Mr. Crow all right, but he is not a good prosecuting

attorney, as in indicting said crow he loses sight of the worst count against him—viz.: the constant business of the crow is to destroy eggs and young birds (most country people know this and any one can satisfy himself of the fact by a little observation). If one crow destroys 50 Robin, Wren and Blue bird eggs in a season, where does his usefulness as a grub destroyer come in? That is the trouble with the crow. These birds eat more insects than the crow, and do no harm whatever. If the only harm the crow did was to steal a few chicks or pull up some corn, I agree with you that he would more than pay for it. But the crows are increasing in number very rapidly here, and our song and insectivorous birds are on the decrease owing to the crow, assisted by the blue jay, the grey squirrel and the English sparrow, that dirty pest that has driven our song birds from our yards, where they used to build for protection. You give figures showing contents of stomachs of owls, hawks and crows, but you do not say at what time of year those hawks were killed. The varieties of hawks that kill chickens do so early and late in the season and seldom catch a chick when grasshoppers are plentiful. The Department of Agriculture is great, but it makes some serious mistakes, as witness the introduction of the English sparrow and German carp in this country. Though to be honest, I don't know that the Agricultural Department did introduce the English sparrow. (It did not.—Ed.) But some "wise acre" did so to "destroy grub worms," etc.

You advocate planting cow peas in corn. Will you kindly tell me in your next issue if peas planted in corn at last working will keep until the corn and provender can be hauled in. I wish to sow my corn field in peas and turn in hogs when I get the corn out, provided the peas will not rot by that time. I will not be able to gather them. I planted peas and also sorghum two years ago in rows two and one-half feet, as you advocate in last *PLANTER*, one peck will plant an acre and make more both peas and vines than one bushel sowed. Also I made a heavy crop sowing half a bushel to the acre. H. COMPTON.

Prince George Co., Md.

In our remarks on Dr. Snead's article in the May issue we were only able to speak generally as to the food of the crows, as at the time we wrote we were unable to put our hands on the official reports. We have since placed our hands on them, and quote as follows: "The adult American crow is vegetarian to the extent of two-thirds of its diet, and half of the vegetable food consists of grain. But nestling crows consume large quantities of cut worms, grasshoppers,

May beetles, both larval and adult, thus rendering considerable more service to agriculture than the adult birds. In fact, the quantity of insect pests they consume exceeds in volume more than two to one the corn they take." The data indicate that the service of the nestling crow blackbirds in destroying insect pests, such as cut worms, May beetles, weevils and grasshoppers far outweighs the loss due to its consumption of corn. As to the English sparrow. We are not willing that even this bird should be left without defence. Whilst the old birds are no doubt largely vegetarian in diet, yet the nestlings are insectivorous to the extent of more than half their food. The quantity of insects, worms and grubs which a pair of old sparrows will feed to their many broods in one season is enormous. As to the crime of driving away native birds, this we believe to be much exaggerated. The greatest enemy of all our birds is the boy (white and black) with a gun. He kills indiscriminately all birds and animals he can, and those he does not kill, he drives away. There ought to be a tax on every gun, and then we would soon have plenty of birds, notwithstanding the sparrow.—Ed.

THE PROPOSED AGRICULTURAL BUILDING AT THE VIRGINIA POLYTECHNIC INSTITUTE (AGRICULTURAL AND MECHANICAL COLLEGE).

Editor Southern Planter:

It will be remembered by the readers of the *PLANTER* that I have had considerable to say about the importance of having a good agricultural building at the Virginia Polytechnic Institute (State Agricultural and Mechanical College). I am glad to report that such a building is now within sight, but when it will be completed is not definitely known, certainly not as soon as we had hoped. In a recent interview with the president, Dr. J. M. McBryde, I was informed that the proposed building would cost thirty-five thousand dollars. This is fifteen thousand less than we hoped to see put into such a building, but it is fifteen thousand *more* than the Board at first asked the Legislature for wherewith to build such a building. Whether "airing the subject" a little in the *PLANTER* helped to increase the Board's appreciation of the subject of agriculture at this Institution or not, I know not, still we are glad to get the fifteen thousand additional. It should be stated also that Dr. McBryde informed me that by using his own superintendent, plumber and electric light expert, he could add ten thousand more to the building,

which would make the building be worth about forty-five thousand dollars.

As in addition to the Agricultural and Horticultural Department we learn that the departments of Veterinary Science and Entomology are to be provided with accommodation in the building we repeat our former statement, that thirty-five thousand dollars is not enough. But we are informed that this sum was all the Board asked the Legislature to give for such a building, and the Legislature gave every cent asked for. Now, if a decent building worthy the interests it will represent cannot be put up and be properly equipped for all these departments for this sum, it is very easy to place the responsibility. The farmers want the short course in agriculture, and this course ought to draw, in a few years, one hundred men.

It is intended to make the building a substantial stone structure, with modern improvements. The site selected is a commanding one, with ample room for additional buildings. The school of agriculture has waited nearly twenty years for such a building, and the "long felt want" will, we hope, now soon be met. The Experiment station work has been largely side tracked and the farmers of the State have been calling for more and better station work, but have not been boisterous or impatient. Now, we want to see things "wake up and move out" along this line. We want to see good laboratories for scientific investigation, as well as large rooms for class instruction. Serious problems of far-reaching importance now confront many Virginia farmers. How to improve most economically the worn soil that has become thin by continuous cropping, how to make farm labor remunerative, and the farm laborers contented. These and many more problems are of vital importance to the future welfare of the State. Let us build for the future.

R. H. PRICE.

Montgomery Co., Va.

THE VIRGINIA CORN EXHIBIT AT THE LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, 1904.

Editor Southern Planter:

As previously noted in your journal, the Virginia Commission to the Louisiana Purchase Exposition, as a stimulus for a fine corn exhibit, offered \$120 in premiums, as follows:

\$50 for the best collection of ten or more varieties collected and sent in from any one county.

\$30 for the second best collection of ten or more varieties collected and sent in from any one county.

\$20 for the third best collection of ten or more varieties collected and sent in from any one county.

\$20 for the best 100 ears sent in by any grower in the State.

On March 1st a committee consisting of Mr. W. P. Wood, of T. W. Wood & Sons, Seedsmen, Mr. Howard Swineford, of Chesterfield county, and Hon. D. A. Slaughter, of Culpeper county, met at the Commission ware rooms, No. 14 Governor street, Richmond, Va., and made the following awards:

\$50 for the best collection of corn, to J. Houston Leech, who collected and sent in from Rockbridge county between 35 and 40 samples of corn.

\$30 for second best collection of corn, to E. M. Minnick, who collected and sent in from Rockingham county between 20 and 25 samples of corn.

The \$20 for the third best collection had no entry, and in view of the long list and magnificent exhibit sent in by contestants for the best 100 ears prize, the committee recommended that this \$20 be made into a second, third and fourth prize, in the sums of \$10 for the second, and \$5 for the third and fourth, and be added to the prize list in the 100 ear contest, this recommendation was approved, and the awards were made as follows:

First prize of \$20 was awarded to Wilson Whitmore, of Red Mills, Rockbridge county, on 100 ears of Red Warrior corn.

Second prize of \$10 was awarded to Mrs. A. C. Bransford, of Shirley, Va., on 100 ears of white corn.

Third prize of \$5 was awarded to Mrs. W. T. Sutherlin, Danville, Va., on 100 ears white corn.

Fourth prize of \$5 was awarded to S. A. Ryman, Timberville, Rockingham county, on 100 ears of Yellow Dent corn.

These prizes were contested for from all over the State, there being over 100 entries in the 100 ear contest, and in reaching a decision the committee had a most arduous task, which they discharged in the most conscientious manner, repeatedly comparing rival samples to remove all doubt as to which was best, and their final verdict was that the whole collection was one that reflected great credit upon the State.

All corn that was sent in unwrapped is being carefully gone over and wrapped in paper, so as to be shipped to St. Louis in good condition, to be exhibited in the producer's name, which list of names will also be furnished the exposition authorities at St. Louis, so that they may appear in the official catalogue.

In closing, I beg, in behalf of the Commission, to thank the Virginia corn growers for their cordial co-operation.

Very truly,

GEO. E. MURRELL,

Superintendent Virginia Commission to the Louisiana Purchase Exposition.

When corresponding with advertisers, kindly mention the SOUTHERN PLANTER.

THE

Southern Planter

PUBLISHED BY

THE SOUTHERN PLANTER PUBLISHING CO'Y.

RICHMOND, VA.

ISSUED ON 1ST OF EACH MONTH.

J. F. JACKSON,

Editor and General Manager.

B. MORGAN SHEPHERD,

BUSINESS MANAGER.

TERMS FOR ADVERTISING.

Rate card furnished on application.

TERMS FOR SUBSCRIPTION.

THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at \$6c. per annum; all foreign countries and the city of Richmond, Va.

ALWAYS GIVE THE NAME of the Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

THE DATE ON YOUR LABEL shows to what time your subscription is paid.

NO ANONYMOUS communications or enquiries will receive attention.

REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

WE INVITE FARMERS to write to us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known, Particulars of Experiments tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

SUBSCRIBERS failing to receive their paper promptly and regularly, will confer a favor by reporting the fact at once.

Address THE SOUTHERN PLANTER, RICHMOND, VA.

Entered at the Post-office, Richmond, Va., as second-class matter.

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PUBLISHER'S NOTES.

TO ADVERTISERS.

We wish to impress upon our advertisers the necessity of having ALL advertisements, no matter whether new or change of copy, in our office by the 24th of each month. Advertising forms close on the 25th. We are compelled to leave a number of advertisements out of each issue because they are received too late.

Whose Money?

On April 5th, we received a fifty cent piece in one of our self-addressed envelopes, without any evidence of who the sender is. As near as we can decipher it, the post mark is Blacksburg, Va. We cannot, of course, give any one credit until we know who sent the money.

BACK NUMBERS.

In our last issue we advertised for back numbers of the SOUTHERN PLANTER and responses to the ad were so numerous that we readily secured all we needed, for which we are very much obliged to the various senders.

Numbers of our readers did not comply with the terms of this ad and sent us their whole volume for 1903 without our asking for them. The packages we could identify we promptly returned, but we have still others on hand yet that we are unable to identify.

We simply publish this notice by way of acknowledging the kindness of our subscribers and to notify others that we have their papers, which we do not need and do not know to whom to return them.

She: Oh! Mr. Borem, how do you do? I was talking to Mrs. Nerdore just now and I couldn't help thinking of you.

He: And was she discussing me?

She: Not exactly. She was commenting on the weather, and just asked me if I could imagine anything more tiresome and disagreeable.

T. W. WOOD & SONS

Are Headquarters For

Cow Peas and Soja Beans

Cow Peas make a large yielding and most nutritious hay crop even on poor or medium land, and the roots and stubble plowed under improves both the condition and productiveness of the soil leaving it in much better condition than before the crop was grown.

Mammoth Yellow Soja Beans unquestionably make the richest and most nutritious feed crop grown on the farm. Equally valuable grown either as a hay crop or for the beans. Better than linseed or cotton seed meal for fattening stock.

Full information about these valuable crops in Wood's Seed Book for 1904. Write for it and Special Price List of Seasonable Seeds.

T. W. Wood & Sons, Seedsmen,
RICHMOND - VIRGINIA.

DO YOU WANT TO GROW ALFALFA?

If you will use Bacteria from Ewell Farm enough soil to infect one acre for one dollar.

Write for circular.

Address GEO. CAMPBELL BROWN, EWE'LL FARM. ... Spring Hill, Tenn.

SAN JOSE SCALE

and other INSECTS killed by

GOOD'S

Caustic Potash Whale-Oil Soap No. 3

Endorsed by U. S. Dept. of Agri. and State Experiment Stations. This soap is a Fertilizer as well as an Insecticide. 50 lb. kegs, \$2.50; 100 lb. kegs, \$4.00; half barrel, \$7.00; 2½ cts per lb. barrel, \$2.10, 2½ cts. Send for circulars.

JAMES GOOD, Original Maker,
989-41 N. Front street, Philadelphia, Pa.

WILL EXCHANGE

One handsome dark red GAME COCK, "war Horse" breed, for three pure-bred one year old barred Plymouth Rock hens. This strain of chickens has been bred and kept pure by Mr. James Norwood for fifty years. If not satisfactory will pay express charges both ways. W. B. MEARES, Hillsboro, N. C.

FRAZER

Axle Grease

Best in the world.

Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand. Not affected by heat. Get the Genuine.

FOR SALE BY ALL DEALERS.

THE MIETZ & WEISS Oil and Gas Engine

Stationary & Marine From 1-50 H. P.

(CONSTANT THRUST),

Adopted by the U. S. and Foreign Governments.



Runs with common Kerosene, Distillate or Fuel-oil.

No dangerous Gasoline used.

It will pay you to consult me before placing your order elsewhere.

For Pumping, Electric Lighting, Charging Storage Batteries, and all other Power Purposes.

DIRECT COUPLED OR BELTED DYNAMO:
Highest Award for Direct Coupled Engine and Dynamo, Paris Exposition, 1900; Gold Medal, Pan-American Exposition, 1901; Gold Medal, Charleston, S. C., Exposition, 1902.

Boilers, Marine Engines, Pumps, Air Compressors, Portable Outfits, Dynamos.

A. MIETZ, 128-138 Mott St., New York, U. S. A.
Send for Catalogue, Department 37.



The FARQUHAR Rake Separator

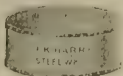
Threshes and cleans all kinds of grain, wheat, oats, etc., perfectly. Built for steam or horse power. Light running and simple. Made in three sizes.

Write for our 1904 catalog of engines, boilers, sawmills and threshing machinery. See our exhibit at St. Louis in the Palace of Agriculture.

A. B. FARQUHAR & CO., Ltd., York, Pa.



WAGON TANKS.



STEEL TANKS,
Plain and Corrugated.



STEEL ROOFING,
ETC.



STEEL FENCING.

O. K. HARRY STEEL WORKS, 2333-5 Papin St., ST. LOUIS, MO.



Heebner's Ensilage Cutter

cuts all kinds of crops, both ensilage and for feeding. It is a most efficient machine, making silage in minutes. With its own engine, it becomes an excellent shredder, three machines in one. It will cut all kinds of feed-crop. See our 1904 Catalog and learn how it is suitable for all farm purposes. Catalogue mailed free.

Heebner & Sons, 25 Broad St., Lansdale, Pa.

WITH THE ADVERTISERS.

Mr. W. B. Meares has a couple of ads in this number to which we invite attention.

Mr. B. B. Buchanan, owner of the Oaks Stock Farm, is offering his place for sale in this issue.

Farms of all sizes in Southside Virginia are advertised by Mr. L. H. Yancey.

The Peterson Mfg. Co. offers its well known Imperial Clod Crusher and Pulverizer in this number.

St. Albans School has a very attractive card on another page. We suggest that parents send for prospectus of this splendid academy before sending their boys elsewhere.

Some very fine Poland China hogs are offered by Mr. E. T. Robinson, Lexington, Va.

Shropshire sheep can be had of Mr. A. S. Craven. Refer to his ad in another column.

Some good stock at low prices can be bought of Rev. S. S. Hepburn. Look up his announcement elsewhere.

A new advertiser in this issue is the Beechenbrook Stock Farm, of which Mr. Williamson Talley is proprietor. Choice Berkshires are the offering this month.

Some finely bred Aberdeen Angus cattle are offered by Rear Admiral B. F. Day. Look up his ad on another page.

Our readers have an opportunity of purchasing some fine Berkshires of Glenburn Farm. Note the ad, on another page.

O. I. C. hogs are offered elsewhere in this issue by F. S. Michie. His prices and breeding are right.

Among the new advertisers in this issue are J. J. Koger & Sons. Their well drilling outfits can be had at reasonable prices.

Mr. J. S. Funk, of Glen Farm, is offering Polled Durham cattle, Shropshire sheep, and Poland China hogs in this issue.

The Hurst Mfg. Co. is offering a sprayer, which is well worth investigating.

Some nice Hereford youngsters can be had of W. J. McCandless.

Parties having a desirable stock farm for sale will do well to refer to the ad of F. W. Meyer.

Poland Chinas and Shropshires are the offering of J. F. Durette this month.

P. M. Funkhouser is offering some of his finely bred Chester Whites.

Shorthorn cattle, White Yorkshire hogs are advertised by Mr. J. M. Hoge.

Some very fine Collie pups are the offering of Mr. A. P. White, Jr. He has the blood of J. Pierpont Morgan's \$3,000 dog in his kennels.

The Maplewood herd of Berkshires is making a bid for the patronage of our readers. Messrs. J. F. Tucker & Sons, the owners, would like to talk Berkshires to interested parties.

Note the change in the Bowmont Farm ad this month. Bowmont is of



20th Century Wagon Box and Rack

One of the most convenient, useful, and labor-saving articles ever offered to the farmer. Substantially made and finished from best materials. Malleable castings and very strong. When closed it is available for hauling corn, potatoes, wood, live stock, etc. By suspending canvas or muslin from top, inside, will hold 100 bushels of bulk grain.

SIDES CAN BE LOWERED INSTANTLY

And it becomes a solid rack for hauling hay, straw, fodder, short wheat, etc., with ample strength and capacity for three tons. Very convenient for loading corn with side lowered as shown in cut. Made 14 feet long and regular widths. Sold direct to farmers at manufacturers' prices, freight prepaid.

Write for Catalogue and prices.

MODEL MFG. CO., Box 25 Muncie, Ind.



THE IMPROVED
809W STUMP PULLER
Write for Prices.

Chamberlin Mfg. Co., Olean, N. Y., U. S. A.

HERCULES STUMP PULLER



Cleaves an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centerville, Iowa.



Running Streams

will force their own waters or water from springs to your buildings, fields or storage tanks, any height or distance with the

Rife Hydraulic Engine.

The power that's always going with you. Write for literature. Sold on 30 days trial. Book free. Ask for RIFE ENGINE CO., 128 Liberty Street, New York.

If You Have Not Been Able to Get a Hydraulic Pump or Ram

and are in need of one, we are just introducing our new standard HYDRAULIC PUMPS, the simplest, best, cheapest and most convenient in every way, and you can secure one at cost by writing the

STANDARD HYDRAULIC PUMP CO.,
Rome, Va.

YOU CAN MAKE \$3 TO \$10 A DAY
Selling Optical College. Write for it.

Our 24-page FREE EYE BOOK tells how. Write for it today.

JACKSONIAN OPTICAL COLLEGE, Dept. 2098, Jackson, Mich.

DE LOACH PAT.

Variable Friction Feed



Save Power and Repairs. Make Smooth Lumber. Suited to 4 H. P. up—for the farmer or the lumber man. Also shingle Mills, Lath Mills, Bulb Mills, Planers and Hay Presses. Catalog FREE.

DeLoach PAT.



TRIPLE HAY BALER. SELF-FEEDER. LOW IN PRICE For Hand, Horse or Belt Power. Leverage 40 to 1. Bales quicker, easier and more solid than any other. Also Grinding Mills, Water Wheels, Etc. 120 LIBERTY ST. DE LOACH MILL MFG. CO. NEW YORK. Box 600 Atlanta, Ga. ST. LOUIS

DEDERICK'S

STEEL
CASE
POWER
PRESS

We are willing to operate this press alongside any other press in the world—customer to keep press he likes best. Write for free catalogue.

P. K.
Dederick's
Sons,
27 North St.,
Albany,
N. Y.



The Red Ripper HAY PRESS

Saves Time, Labor and Money.



THE RED RIPPER is the strongest, simplest and most durable hay press on the market; requires only one horse to operate; capacity, 15 to 30 full size bales (75 to 100 pounds) per hour. Costs less than any other good press and does more and better work than most presses costing five times as much.

Write for Free Illustrated Booklet.

SIKES MFG. CO., Helena, Ga.

CHAMPION COMBINED GASOLINE ENGINE AND HAY PRESS

At it for 30 years and right up-to-date. Presses of every style and for every purpose. If wanting a Baling Press write to FAMOUS MFG. CO. 222 BALFOUR AVE. EAST CHICAGO, IND.

BALES 15 TONS A DAY HAY



Our catalogue gives valuable pointers about Press construction and operation. Our 37 years' experience make the Gem and Victor Presses most durable, easily operated and long-lived. Send postal for book. GEO. ERTLE CO., Quincy, Ill.

Mention THE SOUTHERN PLANTER when corresponding with advertisers.

course headquarters for Jerseys and in addition it has a splendid offering of the spring litters of Yorkshire pigs. Dorset sheep and Hereford cattle of good breeding can be had at reasonable prices of H. Armstrong.

Warner's Correspondence School has a card in another column to which we invite attention.

Annefield Farms are always ready to talk Herefords and Berkshires.

The Gibson & Lamb Co. say they are interesting numbers of our readers in their disinfectants and Lice Killer. We invite attention to their ad.

BEST PART OF A HOG.

George S. Ham, of Cartersville, Ga., tells a good story on himself.

"I was at a little old-fashioned town in the southern part of my State some time ago," he said, "where they didn't know that Lee had surrendered. I was shown to my room in the little inn they called 'the hotel,' by an old uncle who shuffled as he walked and whose scant locks were as white as the cotton he was evidently used to picking. In a place like this town every one you meet wants to know your name and takes great interest in your personal history and business. The old uncle deposited my suit case, and before he turned to go I asked him to fetch a pitcher of water. 'All right, boss,' he said, 'what might yo' name be?'"

"I laughingly told him it was Ham—'just remember the best part of the hog,' I said, 'and you'll have it. He shuffled off down the hall and I had just about dozed into the land of nod when I was brought back to consciousness by a sharp rap at the door and heard the old man say:

"'Heah's yo' water, Marse Chit-lin's.'—Louisville Herald.

A NEW ELDORADO.

A Scotch potato breeder has produced a new variety that has recently sold at astonishing prices. Ten small potatoes in one sale brought an average of \$48.66 apiece. At another sale at which 14 potatoes were sold the average was \$88.21, one choice specimen weighing ten ounces selling at \$238.46. This potato is called the Eldorado, and from the standpoint of its originator it seems to be well named. It is claimed to be an extremely hardy variety and immune to the diseases which are incident to the moist climate of England. The prices paid for specimens are the result of a corner of the seed supply, which is closely held by the originator and a few others who hope to produce large quantities of seed to sell to the public at high figures. Similar speculations recorded in history have benefitted nobody but the few speculators. Practical potato growers can afford to wait a few years for seed rather than pay extravagant prices for it. There will be plenty of Eldorados after a while, and we have some very good varieties now—maybe better than it is.

THIS IS IT



ELECTRIC

The wagon you are looking for; it is a wagon (alas we are all talking about it). It is even tested it is the best—no living man can build a better. Of course you have guessed that it's the

ELECTRIC HANDY WAGON

Low steel wheels; wide tires and durability and good service written all over it. Don't be talked into having an inferior, get the wagon in that has, we used you a set of Electric Steel Wheels and make your old wagon new. Light expense. Spokes made with the hub; absolutely impossible to work loose. Solid on a much-loved machine. Then saving in time, labor, horse flesh and repair bills will pay for them in a single year. More than a million and a quarter in use. All we ask is a chance to tell you more about them. Drop us a line, we'll do the rest. Catalog free.



ELECTRIC WHEEL CO.

Box 146 Quincy, Ill.

WE'LL PAY THE FREIGHT

Send it to us. We'll pay the freight. With Rubber Tires, \$15.00. 1 wheel, \$3 to 4 in. tread. Top Rucles, \$28.75. Harness, \$3.00. Write for catalogue. Leave no doubt you are interested. Wagon Umbrella FREE. W. V. BOOTH, Cincinnati, O.



FARMERS

THE FONTAINE SHOCK BINDER is used and recommended on the Best Farms of the United States, Virginia, North Carolina, and Illinois. It is a strong windlass, weighing three pounds. Saves labor. Prevents shocks falling. Keeps shocks dry inside. Sent by express prepaid for \$1.50. Write for free circular with testimonials and directions for cutting and shocking corn. Agents wanted. FONTAINE SHOCK BINDER CO., Christie, Va.



PATENT YOUR IDEAS

\$100,000 offered for one invention; \$85,000 for another. Book "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. We advertise your patent for sale at our expense.

CHANDLER & CHANDLER, Patent Attorneys
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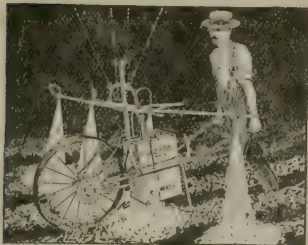
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MAGAZINES.

Although The Century for June is a Western number, five Presidents of the United States figure in it: Washington, in Dr. Mitchell's "autobiographical" narrative; Jefferson, in a portrait by Kosciuszko, and an autograph letter, now first published, giving a forecast of the value of the Louisiana Purchase; Lincoln, in an article on his first lawsuit, with autograph documents; Mr. Cleveland, in a short contribution by himself, "A Word for Forestry"; and Mr. Roosevelt, in an article by Gifford Pinchot, "The New Hope for the West," in which incidentally the President's record on forestry and irrigation is set forth. For the rest, with two or three exceptions, the contributions are all from beyond the Alleghenies, and every State and Territory is represented, either by the writer or by material of special local interest.

Other features of general interest are: "Attractive Features of the St. Louis Exposition," by its President, David R. Francis; "The Conclusion of the Louisiana Purchase Treaty," two pictures by Andre Castaigne; "The Vitality of Mormonism," by Ray Standard Baker; "The Asiatic Trade of Our Pacific States," by Harvey W. Scott; "The Master Plowman of the West," i. e., the gopher, text and pictures by Ernest Thompson Seton; "A Curious Minnesota Romance," by Archer Butler Hulbert, of Ohio, giving fully and authoritatively the facts relating to a supposed heir to the Serbian throne now living in Minnesota.

The fiction in the June Century is particularly representative of the western half of the country. It includes: "The Missing Chord," a story of Texas by O. Henry, formerly a resident of Texas; "Grandmama," a tale of Louisiana in the old days, by Grace King of New Orleans; "By the Terrors of the Law," a story of Arkansas by Octave Thanet, a winter resident of that State; "The Desperation of Mr. Boone Spivey," a story of the Tennessee mountains by Alice MacGowan of Chattanooga; "The Sectional House," a Stocktonesque tale of Iowa by Ellis Parker Butler of that State; "The Quality of Mercy," a story of the Indian Territory by John M. Oskison, long a resident of Vineta; two short stories of Oklahoma by Hamlin Garland of Wisconsin; "A Pilgrim in the Wilderness," a tale of the new West, with typical scenes in Kansas, Colorado, Wyoming and Idaho, by William Allen White of Emporia; "The Last Protest," a story of Montana by Henry Oyen, now of Chicago; "The Problem of Lisbeth," a story of the Washington hop-fields by Ada Woodruff Anderson of Seattle; "Cecilia the Pharisee," the first of a group of "Stories of the Nevada Madigans," by Miriam Michelson of San Francisco; the continuation of "The Sea-Wolf," by Jack London of California; and last, a story of trans-Western travel entitled "Passing the

Clark's Tools for Large Hay Crops



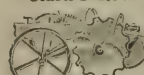
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Torch," by Katharine Holland Brown of Quincy, Illinois.

The June St. Nicholas is a "vacation number," and well worthy the title. Every lad will turn first to and linger longest over Alan P. Ames's account of "How to Keep a Baseball Score." Mr. Ames is a practical scorer, and has illustrated his sketch with real scores. His directions for score-keeping are clear and simple enough for any boy to follow. A charming end-of-the-year story of life in a girls' school is Albert Bigelow Paine's "The Shuttletcock of Fate," holding a sugar-coated lesson that in no wise detracts from the tale. It is illustrated by Orson Lowell. "Dmitry" is a timely Russian story, and "Mistress Flynn and the Pot of Gold" is one of those fairy stories that is ever new. "How Teddy Helped" tells of a small Western lad's fortunate mishap; and there are new chapters in the serials, "A Comedy in Wax" and "What Another Summer Brought to Denise and Ned Toodles."

REPORTS.

U. S. Department of Agriculture, Washington, D. C. Bureau of Animal Industry. Bulletin 58. The fat testing of cream by the Babcock method.

Bureau of Chemistry. Bulletin 82.

Paris green spraying experiments.

Division of Entomology. Bulletin 44.

Some miscellaneous results of the work of the Division of Entomology.

Division of Entomology. Bulletin 46.

Proceedings of the 16th annual meeting of the Association of Economic Entomology.

Bureau of Plant Industry. Bulletin 53.

The Date Palm.

Bureau of Plant Industry. Bulletin 59.

Pasture, meadow and forage crops in Nebraska.

Bureau of Plant Industry. Bulletin 64.

A method of destroying or preventing the growth of Algae and certain pathogenic bacteria in water supplies.

Progress of the Beet Sugar Industry in the U. S. in 1903.

Farmers' Bulletin 193. Experiment Station work.

Cornell Experiment Station, Ithaca, N. Y. Bulletin 217. Spray calendar.

Hampton Agricultural Institute, Hampton, Va. Thirty-sixth annual report.

Louisiana Experiment Station, Baton Rouge, La. Sixteenth annual report.

Bulletin 76. Analyses of Commercial Fertilizer and Paris Green

Maryland Experiment Station, College Park, Md. Circular Bulletin 57.

Some insects that attack fruit trees in the spring.

Circular Bulletin 58. Cabbage diseases and insects.

Michigan Experiment Station, Agricultural College, Mich. Bulletin

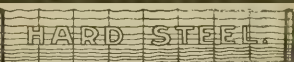
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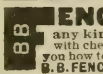
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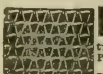


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B. B. Buchanan,
Bedford City, Va.

24. Insects injurious to fruits in Michigan.
- Bulletin 25. Fungus diseases of fruits in Michigan.
- Minnesota Experiment Station, St. Anthony Park, Minn. Bulletin 84. Injurious insects of 1903.
- Bulletin 85. Wheat and flour investigations.
- Bulletin 86. The food value of sugar. The digestive action of milk.
- Class Bulletin 15. Breeding corn.
- Missouri Experiment Station, Columbia, Mo. Bulletin 63. Commercial fertilizers.
- Nebraska Experiment Station, Lincoln, Neb. Bulletin 83. Comparative variety tests of corn in 1902 and 1903.
- New Hampshire Experiment Station, Durham, N. H. Bulletin 103. Standard milk.
- Bulletin 104. Fifteenth annual report.
- Bulletin 107. The Brown tail moth in New Hampshire.
- Bulletin 108. Inspection of fertilizers.
- Bulletin 109. The pernicious or San Jose scale insect.
- Bulletin 110. Experiments in orchard management.
- Bulletin 111. Ten experiments with potatoes and potato culture.
- New York Experiment Station, Geneva, N. Y. Bulletin 246. Shading strawberries.
- North Carolina Department of Agriculture, Raleigh, N. C. The potato beetle.
- Ohio Experiment Station, Wooster, O. Bulletin 143. Twenty-second annual report.
- Bulletin 147. Seed and soil treatment and spray calendar.
- Bulletin 149. The hardy Catalpa as a farm crop.
- Pennsylvania Experiment Station, State College, Pa. Bulletin 65. Forage and soiling experiment, 1902.
- South Dakota Experiment Station, Brookings, S. D. Bulletin 82. Maccaroni wheat. Its milling and chemical characteristics.
- Texas Experiment Station, College Station, Tex. Bulletin 70. The composition of Texas cotton seed meal.
- Virginia State Horticultural Society. Eighth annual report.
- Virginia Weather Service, Richmond, Va. Report for April, 1904.
- Virginia Department of Agriculture, Richmond, Va. Quarterly report for April, 1904. Analysis of fertilizers.
- Wisconsin Experiment Station, Madison, Wis. Bulletin 104. The food requirements of pigs from birth to maturity.
- Bulletin 105. The improvement of home grounds.
- Bulletin 106. Commercial feeding stuffs.

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Bulletin 107. Official tests of dairy cows.

Bulletin 108. Trees and shrubs for shade and ornament.

Bulletin 110. Spraying fruit trees.

Bulletin 111. Oat smut and its prevention.

Bulletin 112. Alfalfa in Wisconsin.

Bulletin 113. Commercial fertilizers and feeding stuffs.

The Philippine Islands Bureau of Agriculture, Manila, P. I. Bulletin 5. List of Philippine agricultural products and fibre plants.

Imperial Agricultural Experiment Station, Nishigahara, Tokio, Japan. The San Jose scale in Japan. PAMPHLETS, ETC.

The Relation of Research to Scientific Agriculture, by Dr. J. B. Weems. Ames, Iowa, read at the 25th annual meeting of the Society for Promotion of Agricultural Science.

American Breeder's Association. Minutes of first annual meeting at St. Louis, Mo., December, 1903.

The Cotton Situation. Address delivered by T. H. Price before the New England Cotton Manufacturers' Association, Boston.

Primary Education and the Race Problem. An address to the people of Virginia by A. F. Thomas, member of the State Senate.

CATALOGUES.

The Ellerslie Yearlings, property of Messrs. R. J. Hancock & Son, of Charlottesville, Va., together with those from Mapelhurst and Keelona Studs to be sold at the Brooklyn Race Course, Gravesend, N. Y., June 14th, 1904.

De Laval Cream Separator.

Joint Breeders Sale of Trotting and Pacing Horses and Jersey Cattle at Ewell Farm, Ewell Station, Spring Hill, Tenn., June 3, 1904.

Standard Hydraulic Pump Co., Roanoke, Va.

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Senator Aldrich used to be shamed by a colored barber of the name of Dickson whenever he went to Boston. One morning he opened a conversation by saying: "I believe you are a member of the African Church in — street?" "No, sah; not at all, sah," was the reply, made with much dignity.

"Ah, I thought you were when I was here last."

"But not dis yeah, sah."

"Ah, have you resigned?"

"Well, sah, it was dis way: I jined dat church en good faith and de fust yeah I give ten dollars to dis stated gospel, en all de church people calls me 'Brudder Dickson.' De second yeah ma bizness fell off, en I give five dollars; en all de church people dey call me 'Mister Dickson.' Do dis razzar huntu yo, sah?"

"Not at all; it is very easy."

"Thank yo, sah; well, de third yeah I feel so polhy dat I don't give nuthin' 't all fur preachin', en all de church people dey pass me by en say 'dat old niggab Dickson.' After dat I quit 'em."

—New York Press.

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For that's the stuff that's ready.



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Which removes Garlic, Onion and Weed Taint from Milk. Send for circular to

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WASHINGTON NOTES.

Mr. George K. Holmes, of the Bureau of Statistics, Department of Agriculture, contributes an article to the forthcoming Yearbook on "The Nation's Farm Surplus."

"As well try," he says in a stately introductory, "to comprehend the distances of the stars or the duration of eternity as to attempt to make intelligible the vast quantities and value of the farm products of this country, or even of the exported surplus, which is so large as to be without parallel among the countries of the earth.

"The value of the exported farm products in the fiscal year 1903 was \$878,000,000. During the last five years these exports have aggregated \$4,302,000,000.

"The United Kingdom takes about one-half of the exported products of this country; on the other hand farm products go from the United States to many strange and remote nooks and corners of the world.

The United States has a long lead over its competitors as a purveyor of meat to the United Kingdom. The cattle imports in 1900 were 43,000,000 of which the United States supplied seventy-two per cent., and Canada only twenty per cent."

Mr. Holmes shows that in supplying dairy products and eggs to England, however, the United States is far behind other countries. He states broadly that the United Kingdom takes one-half of all this country's exports of farm products, and Germany one-sixth and that our principal competitors are Australia, Argentina and Canada; in live animals, Argentina and Canada; in grain and its products, Argentina, Russia, Canada and Roumania; while in cotton the other countries of the earth have not yet produced a direct competitor for our upland varieties.

The Good roads question now being considerably agitated, and which holds out possibilities of being some political interest is by no means a new issue. Early in the last century road reform assumed such proportions that it was advocated by many of the great patriots of the day, and became, next to the tariff, one of the most important subjects discussed by Congress. Good roads were actively supported by such statesmen as Jefferson, Calhoun and Clay. During Jefferson's second term the bill admitting Ohio as a State passed Congress, and contained a proviso that five per cent. of the proceeds from the sales of public lands in the State should be set aside for road making, three per cent. for roads within the State and two per cent. for highways outside the State. In 1806, the sales of public lands in Ohio having amounted to \$600,000, the construction of the Cumberland Road was begun. It was built after the Macadam plan and was so well built that it is still a good road. This road is

Kills 'em Quick



Magic Death Powder

NOT A POISON, but a remarkable discovery which is very effective in causing stupefaction and death to all kinds of insects infesting Poultry, Animals, Plants and Houses. Put up in a box ingeniously arranged for conveniently dusting or blowing the powder where wanted.

Send 25c. to **MAGIC FOOD CO.**, Chattanooga, Tenn., and get a book by mail. A beautiful picture in colors suitable for framing given FREE with each order during the next 30 days. Rid your Chickens of Lice, Pet Animals of Fleas, etc. Your House of Bed Bugs, Flies and Mosquitoes, by the use of **MAGIC DEATH POWDER**.

LICE.

KILL THE LICE AND MITES on your towels and chicks with **GIBSON'S LIQUID LICE KILLER**, and **GIBSON'S INSECT POWDER**. Paint the Liquid on the roosts and bottom of Coops, and dust the Powder in the nest boxes. Both guaranteed or money refunded.

Liquid Lice Killer, \$1.00 per gallon; one-half gallon, 60c. Insect Powder, 5 oz. box, 15c.; and 16 oz. box, 40c. postpaid.

Agents wanted. Liberal terms.

GIBSON & LAMB, West Alexander, Pa.



COOPER SHEEP DIP

Standard of the World

for 60 years. Used on 250 millions annually. One dipping kills Ticks, Lice and Nits. No smell. Keeps flock clean a long time. Increases growth of wool.

Dipping Tanks at cost.

Send for Pamphlet to Chicago.

If local druggists cannot supply, send \$1.75 for \$2.00 (100 gal.) pkt. to **JOHNSON & STOKES**, Philadelphia, Pa. **G. A. KELLY & CO.**, Pittsburgh, Pa. **WM. COOPER & NEPHEWS**, Chicago, Ill.

For Sale or Trade.

The beautiful gray **PERCHEON STALLION** **DON PRIMO**, recently brought in from the West, guaranteed sure foal getter, round and gentle. Reg. No. 15558. Weight, about 1,300 pounds. Reason for selling, mares in this section are too light. Price, \$800. Will trade for land, cows, sheep, goats or driving horses. **CHR. J. JEHNE**, Farmville, Va.

Radia

..... IS A
HOUSEHOLD
Remedy



Cures

La Grippe,
Pneumonia,
Croup,
Influenza.



GIVES
PERMANENT
RELIEF.



The Radia Company

Manufacturing Chemists,

Dept. K. DURHAM, N. C.

well described in a Maryland government publication, as follows:

"The road was excellently macadamized and the rivers and creeks were spanned by stone bridges. Its projector and chief supporter was Henry Clay, whose service in its behalf is commemorated by a monument near Wheeling. Scarce a day that did not see twenty gaily painted four-horse coaches pass each way on this road. Drove of cattle and sheep were never out of sight. Great canvass covered wagons with heavy loads moved easily along drawn by six, eight, ten and sometimes twelve horses. Within a mile of the road the country was a wilderness, unsettled, unbroken, but on the highway itself, the traffic was as dense as in the main street of a large town. Ten miles an hour is said to have been the usual speed of coaches but between Hagerstown and Frederick, it is claimed that the 26 miles was often made in two hours. These coaches ran regularly until 1853. A regular line of through freight wagons ran between Baltimore and Wheeling. They were drawn by six span of horses and carried 10 tons. Their rear wheels were 10 feet high. The tolls from this road at one time yielded dividends of 20 per cent. The part built by the Federal Government was some time ago transferred to Maryland. From 1810 to 1816 Congress appropriated \$680,000 for continuing the work on this road.

In 1817 both John C. Calhoun and Henry Clay advocated a measure for national road making, the money therefor to come from the revenues to the government from the National banks. The bill passed Congress but President Monroe vetoed it on the ground that he believed it unconstitutional. An attempt to pass it over the veto failed. Nevertheless Congress appropriated liberally for good roads out of the sales of public lands in the different States, as she had done in Ohio. In Louisiana, Indiana, Mississippi, Illinois, Alabama, Missouri, Iowa, Georgia, Tennessee and Arkansas turnpikes were built under this plan. From 1806 to 1838, \$1,600,000 was appropriated by Congress for roads in various places and in addition grants of land have been made from time to time to aid in the work and the labor of United States troops has occasionally been employed. Following the industrial and financial depression of 1837 but little government work was done in road making but in 1854 another period of activity began and lasted until the civil war, during which time over \$1,500,000 was expended on public roads. Since the civil war there has been practically no government road building, save in some instances in the District of Columbia, national cemeteries, etc.

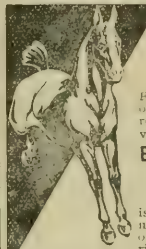
Mr. C. P. Hartley, of the Department of Agriculture, contributes some popcorn lore to the *Southern Planter*. He says that the popping of the corn

Horse Owners! Use GOMBAULT'S Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blomishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or bluish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circular. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



IT'S GOOD

For every horse, cow, hog or sheep, and it is the only remedy which they take voluntarily and relish.

Blackman's Medicated Salt Brick

is the best stock remedy made (being the formula of a celebrated veterinarian) and being so pleasant to take, on account of the salt taste, does away with all trouble of dosing, drenching and mixing with feed. It is unequaled as a blood purifier, aid of digestion and general system regulator. Thousands endorse it.

Special Offer.—We will send four bricks, prepaid to any address upon receipt of \$1.00, which will be cheerfully refunded if you are not in every way pleased.

Sold by dealers. BLACKMAN STOCK REMEDY CO., 927 Highland Park, Chattanooga, Tenn.

Lump Jaw



Save the animal—save your hard—cure every case of Lump Jaw. The disease is fatal in time, and it spreads. Only one way to cure it—use

Fleming's Lump Jaw Cure

No trouble—rub it on. No risk—your money back if it ever fails. Used for seven years by nearly all the best stockmen. Free book tells you more.

Spavin and Ring-bone

Once hard to cure—easy now. A 45-minute treatment does it. No other method so easy—no other method sure.

Fleming's Spavin and Ringbone Paste cures even the worst cases—none too old or bad. Money back if it ever fails. Free illustrated book about Lump Jaw, Spavin, Ringbone, Salted Legs, and other stock ailments. Write for it.

FLEMING BROS., Chemists,
280 Union Stock Yards, Chicago, Ill.



DEATH TO HEAVES
Insured

NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A remedy for all the worst and stomach troubles. See recommendations \$1.00 per copy. Order by mail. The Newton Remedy Co., Toledo, Ohio.

White Leghorns.



Eggs \$2.00 per 15; \$5.00 per 60; \$7.50 per 100. Circular shows winnings.

C. G. M. Fink, R. F. D. 2,
Richmond, Va.

EGGS for HATCHING.

75c. Per Sitting of 15.

Light Brahmas, Black Minorcas, S. L. Wyandottes, Barred and W. Rocks, Brown Leghorns S. and R. C; White Leghorns S. C.

A few more Leghorn and Minorca Cockerels left. J. B. JOHNSON, Manassas, Va. CLOVER HILL FARM.

Farm-Raised Poultry.

Two distinct flocks of Mammoth Bronze Turkeys from which we make matings for breeding purposes at reasonable prices. Eggs in season.

BARRED PLYMOUTH ROCKS,
WHITE PLYMOUTH ROCKS.

BIRDS AND EGGS.

PROGRESS FARM, Box 52, Normandy, Tenn



SILVER-LACED WYANDOTTES.

Eggs For Hatching,
\$1.00 per 15 from strong and healthy birds of leading strains. A few choice pullets at \$1 each. Pure-bred Poland China Hens at \$5.00 each.

Dr. H. H. LEE,
R. F. D. 2, Lexington, Va.

WALSH'S Barred Plymouth Rocks

High class combination utility and exhibition stock. Best blood. Bred from prolific layers of large brown eggs. Eggs, \$1.50 per 15.

L. W. WALSH,
Lynchburg, Va.

CHOICE



FOR
HATCHING.

Of 49 Varieties Best Poultry. Fine, large illustrated descriptive Poultry Book postpaid, only 5c. Price list FREE. Write now. JOHN E. HEATWOLE, Prop. Valley Poultry Farms, Harrisonburg, Va.

is due to the generation of gas from the oil contained in the kernel. Field corn does not pop as readily as pop corn because the shell is more porous, permitting the escape of the oil as it volatilizes, while in the case of pop corn a great pressure is developed in the kernel by the confined oil, and the kernel is suddenly exploded and turned wrong side out. Pop corn pops more readily when dry because when moist the kernels are swollen, the shell more porous and tougher and the kernels do not explode so suddenly and completely as when dry and hard.

Pate de foie gras is a dish for the epicure and while it is made simply from diseased goose liver, if the epicure will pay sufficient for it, the farmer may be excused for furnishing it. At least the goose has a good time while he is being stuffed to repletion with choice viands. The fattening period lasts from four to six weeks. The birds are closely confined and are fed two or three times a day, by cramming, an approved daily ration consisting of about a pound and a half of maize meal and beans cooked in water, the amount being increased as the appetite grows, the bird being supplied with fresh water, to which a little wood charcoal is sometimes added. The livers, by this process, are enormously enlarged, and furnish the basis of the dish.

The readiness with which anthrax may be communicated from one animal to another is noted in the experiment station record of the Department of Agriculture. A harness which had been upon a horse that had recently died with anthrax was placed upon a healthy horse with the result that the latter animal subsequently contracted the disease.

In experiments with rabbits the disease was contracted by lightly rubbing the anthrax germs upon the skin. There were no cuts or abrasions of the skin but the bacilli penetrated through the hair follicles.

GUY E. MITCHELL.

"THE VETERINARY ADVISER."

Doubtless many readers of the SOUTHERN PLANTER have procured the little book, the Veterinary Adviser, of which much is said from time to time in stock papers. Those who have not, will profit by sending for it. It is an admirable little veterinary guide, sent free to those who specially request it, by the Zenner Disinfectant Company, 93 Bates street, Detroit, Michigan, proprietors of the celebrated Zenoleum Disinfectant, Sheep-Dip and Lice-Killer, advertised in this issue. The work is a practical treatment of common every day ailments of all branches of the live stock family. Look up the Zenoleum advertisement elsewhere, and then do not fail to send for the Zenoleum "Veterinary Adviser."

...FEEDING OUR... BABY CHICK FOOD

PRODUCES

HEALTHY CHICKS.

SAMPLE FOR THE ASKING.

INCUBATORS, ::: :::
BROODERS AND
POULTRY SUPPLIES,
ALWAYS IN STOCK.

BIRDS, PET STOCK, GOLD FISH

EVERYTHING FOR THE FANCIER.

CATALOGUE FREE.

Having made a change in management we are better than ever, prepared to make prompt shipment.

FANCIERS' SUPPLY CO.,
517-519 West Broad St.,
Richmond, Va.

ORPINGTON SPECIAL

The popular fowl of the day is the Orpington. Eggs from best matings of our S. C. Ruffs, \$1.50 per 15, or \$4 for 60, June delivery. July and August delivery at \$1 per 15, or \$3 per 60. Prompt attention and safe delivery. Poland China Pigs, 8 to 10 weeks old, at \$3.50 to \$5 each. OCONNECHEE FARM, Jeffers, Mecklenburg Co., Va.

PIT GAMES

Black Devils and Red Cubans.

Where they won, Sharon, N. Y., 4 out of 5. Blue Rock, Pa., 2 out of 3. Clarion, Pa., 5 straight. Roanoke, Va., 3 out of 9. Akron, Ia., 2 straight. Eggs, \$2 per sitting. Young trios, quail size, \$3.

THOS. W. JARMAN, Yancey Mills, Va.

EGGS

From my S. C. Black Minorcas and S. C. White Leghorns of the very best strains. These breeds are raised on separate farms, and have free range. Eggs, 75c. per 15; \$1.50 per 35; \$4.00 per 100. I guarantee two-thirds hatch, or replace at half price.

J. MILTON GARNETT, Prop.,
Mitchell's, Va.

BROWN LEGHORNS.

Eggs for hatching from splendid layers, \$1.00 per sitting. Pens mated for best results.

R. W. HAW, Jr., Centralia, Va.

Piedmont Poultry Place,

"Handles nothing but the best."

We now offer Pure-bred POLAND-CHINA Pigs for sale. We will not sell under 8 weeks old. Single pig \$6; per pair \$10; per trio, \$14. Some ready for shipment May 15th. First orders get best pigs.

Miss E. Cattie Giles, Prop.,
Whitties Depot, Va.

ANGORA GOATS are handsome, hardy and profitable. For large circular address E. W. COLE & CO., Big Clifty, Ky.

BARGAINS

for months June and July, **WHITE WYANDOTTE** eggs, 3.00 per 100.
EDGEPORT POULTRY YARDS.
JOHN A. REEDY, Prop. Liberty Mills, Va.

Fresh Laid Eggs

of Mammoth Bronze Turkeys, Barred Plymouth Rock, White Wyandotte and S. C. B. Leghorn Chickens. Safe delivery insured. Prices reasonable. **MISS CLARA L. SMITH,** Croxton, Caroline Co., Va.

White Minorcas,

Large well shaped birds. Prize winners and the best of Layers. Eggs supplied from the best of matings. Shipped safely anywhere. Catalog free. **F. S. BULLINGTON,** Box P, Richmond, Va.

Barred Plymouth Rocks.

Eggs for hatching 15 for \$5c.
30 for \$1.50, 100 for \$4.50
F. W. MEYER, Farmville, Va.

COLLIE PUPS

By Imported Sires. Sable and white and tri-colors. Prices, \$3 to \$15. Older ones correspondingly low. Book on Training, 50 cents: FREE if you buy a Collie.
MAPLE MOUNT STOCK FARM, South Athol, Mass.

Choice....

COLLIE PUPS

of the best families.

Fine BERKSHIRES.

3 choice Sows, also some nice pigs, both sexes. Write me your wants. **A. P. WHITE,** JR., Prop., Accomac Herd, Parksley, Va.

2 good looking young

ENGLISH SETTERS

Partially broken on quail; dogs; 14 months old, black and white. Strong and healthy. One retrieves. \$25 each. If not satisfactory or not as represented will refund purchase money at any time within five months if returned to me in good condition. These dogs are level-headed and companionable. New York and Richmond references. Address, **W. B. MEARES,** Belvidere Field Dog Kennels, Hillsboro, Orange Co., N. C.

Edgewood Stock Farm.

SCOTCH COLLIES!

A beautiful litter of sables and blacks, full white marks. Bred strong in blood of Christopher, Barwell Mystery, and Doon Marjorie. Sire and dam grand drivers, great workers. Pups now ready at \$10 and \$8. Eligible to register. Get photos. **H. B. ARBUCKLE,** Maxwellton, W. Va.

Reg Scotch Collies.

Collie Pups from registered parents now ready. All Sables with full white points. **SIMPLY BEAUTIFUL!** and no better bred pups in the U. S. to-day. Sire the imported champion Welliesboro Hope, 1st. winner at Pan-American, Chicago, Philadelphia and many other leading shows. He by Champion Balgownie Hope, out of Champion Ormskirik Ideal. Dam, Pee Dee Princess, by imported Cheviot Production, winner of many firsts in England, out of Imported Brookside Minnie, also winner in Scotland and America. Bright, active, and alert pups, all with an eye single already for business. Order quick. \$8 to \$15. **E. C. NEWTON,** McColl, S. C., R. F. D. No. 2.

MOST POWERFUL BALING PRESS IN THE WORLD.

Now Being Exhibited at the St. Louis Exposition by **P. K. Dederick's Sons.**

Among the large agricultural machinery exhibits at the St. Louis World's Fair, that of the Dederick Agricultural Machine Works deserves notice, being the largest exhibit in its line ever made in the world.

Presses of all kinds are included in the exhibit, as follows: Steel case belt press, steel case reversible, wood frame belt, steel case full circle, new two wheel belt, new vertical full circle, double bale Columbian box press, Standard Columbian box press, steel case horizontal shaving press and hand operated box press. Power frame and gear wheels of XXX continuous extra heavy are also shown, giving, however, only a faint idea of the power of this press, which is the most powerful made. Sample bales of different kinds are also included in the exhibit. Special cotton bales with patented sample ridge, and hay bales pressed without hands—also hay baled to the density of oak wood.

The Dederick Works at Albany, N. Y., now conducted by **P. K. Dederick's Sons,** are known the world over as the oldest and largest in existence, and confining their output to the Dederick patents, of which there are about three hundred, have always been bailing press headquarters of the world.

HER FIRST.

A small boy, aged five, had a step-mother who was young and nervous. She had never had experience with children, and the small boy's slightest ailment tortured her into a panic.

Croup threatened one day, and the doctor was sent for in wild haste. As the doctor entered the room the child raised his head from his pillow and croaked hoarsely, in apology for the hasty summons—

"You must excuse her, doctor, this is the first time she's ever been a mother."—*May Lippincott's Magazine.*

HURST SPRAYER.

The attention of our readers is directed to the advertisement of the **H. L. Hurst Manufacturing Co.,** which appears elsewhere in this issue. The illustration shows the Hurst Field and Orchard Spraying Machine at work spraying potatoes. The machine sprays four rows at a time and is perfectly adapted to both high and low spraying. It also sprays small fruits, currants and gooseberry bushes and grape vines as well as tobacco, cabbage, strawberries, etc. It can be pushed along as easily as an empty wheel-barrow and it does the rest; although it is provided with a horse-hitch. Agencies may be obtained and the machine will be sent on ten days free trial.

RELIABLE SEED

FOR THE FARM AND GARDEN.

Millet, Amber and Orange Sorghum, Kaffir Corn, Teosinte, Buckwheat, Potatoes for late planting, Turnip Seed, and all varieties of Field and Garden Seeds of the highest quality and germination. Write us for quotations. Mail orders given prompt attention.

DIGGS & BEADLES,

1709 East Franklin Street,

RICHMOND, VA.

CATALOG MAILED FREE.

KENTUCKY JACK FARM

A fine lot of **KENTUCKY** bred and big **BLACK SPANISH** Jacks and Jennets; also 1 and 2 year old Jacks; young stock for sale at all times.

Write or see me before you buy. Come to Kentucky if you want a good Jack. **JOE E. WRIGHT,** Junction City, Ky.

SPECIAL BARGAIN SALE OF JACKS.

For the next 60 days, I will sell some fine Jacks at **ONE-HALF** their value, in order to make room for the coming importation. I will also pay the R. R. fare of buyers during this time. Come at once for a bargain. **BAKER'S JACK FARM.** Lawrence, Ind.

WHAT DO YOU WANT?

There is no **ROYAL ROAD** to success, but the best travelled path in Virginia for those who want **FANCY STOCK AND POULTRY**, is the route to **THE CEDARS P. & S. FARM.** home of the aristocracy in poultry and stock. **JERSEY CATTLE, DUROC JERSEY and POLAND CHINA SWINE, M. B. TURKEYS and B. P. R. FOWLS; ENGLISH SETTERS and BEAGLE HOUNDS.** **WM. G. OWENS,** Midlothian, Va.

Meadow Brook SHROPSHIRE.

For sale; very fine one and two year old pure bred **SHROPSHIRE BUCKS;** some very nice ewe lambs. **C. A. SAUNDERS,** Meadow Brook Stock Farm, Culpeper, Va.

Shropshire Sheep.

One pure bred **SHROPSHIRE BUCK.** Also a few pure bred ewes and lambs for sale at moderate prices. **A. S. CRAVEN,** Greenwood, Va.

Woodland Farm

offers the best lot of October dropped **Dorset Ram** lambs which it has ever raised.

J. E. WING & BROS., Mechanicsburg, O.

BERKSHIRES

ANNEFIELD HERD

Contains the

Finest Blood Lines

In England and America.

Young Stock for Sale.

Inquiries cheerfully answered.

EDW. G. BUTLER, Annefield Farms,
Briggs, Clarke Co., Va.

Berkshires

Pigs farrowed February and March, 1904, from Registered Sows, by MASON OF BILTMORE II (68548), a son of LOYAL MASON, and a grandson of the famous LOYAL BERKS. Nothing but Biltmore blood in my herd and sure to give satisfaction to purchasers.

ROBERT HIBBERT, Charlottesville, Va.

BEECHENBROOK STOCK FARM.

High class registered
BERKSHIRE PIGS, ready
for immediate delivery.

PRICES REASONABLE.

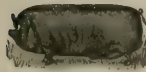
WILLIAMSON TALLEY,
Richmond, Va.

Berkshire Boar

1 year old, by my imported son of the great FIRST CATCH F, and out of a HIGHCLERE sow for sale. Also a YOUNG BOAR (just weaned) by an imported son of MANOR FAVORITE, out of an imported grand-daughter of LOYAL BERKS. Best of breeding, best individuals, best dispositions, are to be found in my herd.

F. M. HODGSON,

West End, Va.



**LARGE
BERKSHIRES**

Am offering a nice lot of pigs, April farrow, both sexes, at very reasonable prices. Try me with an order and be convinced. Correspondence solicited. J. W. McFADDIN, R. F. D. 1, Raphine, Rockbridge Co., Va.

BERKSHIRES.

4 Boar Pigs farrowed March 11th at \$5 each if taken soon. Will furnish pedigree and deliver to express office here. THESE ARE BARGAINS AT PRICE. First orders will get them. T. M. KING, R. F. D. 2, Hagan, Lee Co., Va.

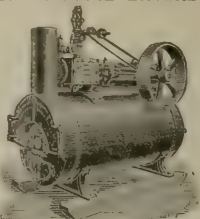
Maplewood Herd

of Berkshires.

Choice individuals. Selectly bred. Write for prices, stating your wants. JOHN F. TUCKER, Smyrna, Tenn.

LEFFEL BOILER.

For many years James Leffel & Co. have been manufacturing boilers and steam engines for every purpose requiring from three to sixty horse power. The illustration herewith shows



one style made by this firm which is particularly suited for farmers, dairymen and others who want power that is easily moved from place to place or an engine that develops any power from three to seven horse and at the same time occupies very small space. For those who need more power this company makes a vertical boiler with horizontal engine on the same base, which needs very little space and develops from six to thirty-five horse power. All the engines made by this firm are built so as to make the best use of fuel, and are economically operated. The firm publishes a catalogue containing numerous illustrations of their various boilers and engines, and giving details of construction and material that cannot fail to interest all those who contemplate using steam power on the farm. This catalogue is sent free to any one who asks for it. Address James Leffel & Co., Springfield, Ohio.

A PERSONAL REQUEST.

We want every reader of this paper who does hauling of any kind to send to the Electric Wheel Co., at Quincy, Ill., for their new booklet, "Wheel Sense."

We know that a good many farmers think they have not many spare moments at this time of the year, to indulge in reading, but this is a booklet which will not take many minutes to run through and its so full of good, sound sense, on the hauling question, that you ought not overlook it.

Of course, it tells about the Electric Metal Wheels and the Electric Handy Wagons—wide-tired, convenient and labor-saving. It is at this time of the year when users of wagons equipped with Electric Wheels, find them of greatest service in hauling manure, hay, in harvesting and for the thousand and one jobs about the farm for which a wagon is required. We cannot understand why so many men continue to load high wagons, cut up their fields, overwork their horses, when an investment of a few dollars for a set of Electric Wheels, would avoid so much hard work. Send for the booklet and see what hundreds of wide-awake farmers have discovered.

Berkshire Hogs!



Sires in service, **Rockland Majestic of New Era**; his sire **Rockland Gentry**, champion of America in 1903; grand sire, **Baron Lee IV**, Model Lee IX, sire **Gov. Lee**, champion of America in 1889, Sows of **EQUALLY NOTED** Strains. A few nice pigs for sale. Write for prices.

JNO. CALHOUN, Clio, S. C.

THOROUGH-BRED....

**Berkshire Boars,
Dorset Buck Lambs,
Jersey Bull Calves.**

All stock in best of condition and guaranteed as represented.

F. T. ENGLISH, Centerville, Md.

Hawksley Stock Farm

has a lot of

BERKSHIRE PIGS

ready for shipment. They are good as the best. Also young Boars ready for service. B. P. ROCKS and S. C. B. LEGHORN Eggs, \$1 for 13. J. T. OLIVER, Allens Level, Va.

PIGS=PIGS=PIGS



have some nice ESSEX PIGS from 4 to 8 months old, prices from \$6.00 to \$10.00 each I also have a few nice SHEPHERD PUPS, 4 months old at \$5 each.

Your orders solicited.

L. G. JONES, Tobaccoville, N. C.

ORCHARD HILL PURE-BRED

POLAND CHINA

Pigs and brood sows for sale. Also a fine Guernsey Bull Calf and S. C. B. Leghorn Eggs. F. M. SMITH, JR., R. F. D. 4, Charlottesville, Va.

REG. POLAND=CHINAS

With SIZE and FINISH; the LONG, BROAD, LOW DOWN kind that GET BIG quickly. I offer some very pretty pigs farrowed March and April, 1904, at prices any breeder or farmer can afford to pay. I am going to sell them cheap. Nothing but the very best shipped. W. B. PATNE, Edgewood Farm, Crofton, Va.

Poland-Chinas and Chester Whites

AT FARMER'S PRICES.

S. M. WISECARVER, - - Rustburg, Va.

Choice Poland-Chinas.**Sunshine and Free Coin-
age Blood.**

Choice 2 1-2 months pigs. Either sex—ready for shipment. \$7 each. Eligible to registry and guaranteed O. K. Buy the best, it pays to do so. E. T. ROBINSON, Lexington, Va.

"PIGS" - "PIGS"
Registered O-I-C Swine
—FOR SALE—

WM. E. HAMMOND,
Mansfield Farm, Goochland C. H., Va.

O. I. C. PIGS

from Registered stock, for sale at right prices. Address

F. S. MICHIE, Charlottesville, Va.

Registered P. Chinas Berkshires,
C. Whites. Fine large strains. All ages, mated not a in. 8 week, pigs. Bred sows. Service boars and Poultry. Write for prices and free circular.
P. F. HAMILTON, Cochranville, Chester Co., Pa.



TAMWORTH BOARS Ready for Service;
Bred from Registered Stock, Imported from Canada.

I. H. LAREW, Newbern, Va.

...BARGAINS...
**DORSETS AND
HEREFORDS**

H. ARMSTRONG, LANTZ MILLS, VA.

HEREFORD BULL

calif, 10 months old for sale, or will exchange for a heifer.

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WANTED 20 VIRGINIA or NORTH CAROLINA GRADE SHORTHORN

heifers, 2 to 3 years old, bred to Registered Bull, and to calve from August to January. Address, stating price, breeding on both sides, weight and age. JANNEY BROS., Gloucester, Va.

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2 Reg. Ayrshire Bulls,

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Low considering Quality.

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GOOD HOUSEKEEPING.
POTATO YEAST.

Peel and grate eight good sized potatoes, pour a gallon of boiling water over them and let them boil for ten or fifteen minutes. When cold add one cup of salt, one cup of sugar and one yeast cake which has been dissolved in cold water, or a cup and a half of liquid yeast. (It is safer to use the yeast cake.) Put the yeast in glass jars but do not screw the tops on for twenty-four hours. After it has worked well keep it in a cool place, and you will have sweet bread as long as it lasts.

HARD SOAP.

Melt off the top of a tomato can as a measure. Take three cans of clean grease, one box of concentrated lye, and a bucket of cold water. Put the water on in two pots, in one put the lye to melt, then add the grease and let it boil steadily for an hour, then add the other half of the water a little at a time. Keep it all boiling slowly for another hour, add a handful of salt and pour it out into a box lined with an old bag. When it is cold cut in blocks and expose to the sun for a few days before packing.

STRAWBERRY WINE.

Buy the wild berries for this if you can get them, they have so much more flavor of the strawberry. Take six quarts of berries, pour over them three quarts of boiling water and let them stand till the next day, then crush and strain the juice twice through a cloth, to one gallon put two pounds of sugar, put it into a jug and set in a cool dry place to ferment, take care not to shake. After six weeks cork and seal. This is especially good for seasoning sauces and jelly.

CANNED STRAWBERRIES.

Pick over the berries carefully, but avoid washing if possible. Put them into a granite kettle with about a quart of water to six of berries. Let them boil for fifteen minutes, heat your jars, fill very full with the fruit and screw as tight as you can at once. Set them in a cool dark place and after they are thoroughly cold tighten the top. It is very much better not to put any sugar in them and is very important that they be kept in the dark. These make delightful ice cream, and are good served with sugar and cream, as any other canned fruit is done.

STRAWBERRY JELLY.

This is delicious. Take perfectly fresh berries and pick but do not wash. If positively necessary to wash them, put them in a sifter and pour the water over them shaking to get off the grit and let the water all drain away. Then put them in a kettle and bring to a hard boil, pour into a bag and let the juice drain off, taking care not to press the bag. To each pint of the juice weigh one pound of sugar. Put the juice on the fire in a granite kettle and put the sugar in a biscuit pan and set it in the stove to heat. When the juice has boiled fif-

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FOR SALE—2 Registered Bulls, calved Dec. 17th, 1902, and Aug. 28th, 1903.

Berkshire Pigs

(Biltmore Strain.)

farrowed May 1903. For terms, apply to

L. H. GRAY, Orange, Va.

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teen minutes add the hot sugar and let it boil ten minutes more. Some times it will take less time and sometimes a little longer. Fill the glasses and set them in the sun. If your glasses have tin tops, be careful to put several layers of paper over the jelly. This will keep it from molding.

CHICKEN CROQUETTES.

Scraps of a roasted fowl will do as well for these as one especially prepared. To one pint of finely chopped meat seasoned with one tablespoon of salt and one-half teaspoon of pepper, one teaspoon of onion juice, one of lemon juice, half a teaspoon of celery seed. Cream one tablespoon of flour with three tablespoons of butter and over it pour a cup of scalding cream, into this stir the seasoned chicken and one pint of fine crumbs, stir well and add two beaten eggs, boil about two minutes, take from the fire and let it get cold, then shape into balls or cones and roll in beaten egg and then in crumbs and fry in hot fat.

ORANGE ICE.

Grate carefully nine oranges and two lemons. Put the grated rind into a bucket with a cup of sugar and a quart of water, let it stand. Dissolve four full tablespoons of corn starch in a little cold water and pour boiling water over it to cook clear, about two quarts of the boiling water, then add six cups of sugar, pour it all over the grated rind, and add the juice of the fruit, add water enough to make nearly two gallons of ice and freeze hard. I use the corn starch because it is so much cheaper than the gelatine, but if you can afford it the gelatine is better, makes a smoother ice.

STRAWBERRY CREAM.

Crush and strain three quarts of berries. Make a custard of one quart of milk, four eggs and three tablespoons of corn starch, pour this into three quarts of milk and add the berries, freeze at once. This will make two gallons when frozen. You can put the two quarts of sugar in the milk or in the fruit. I usually put it in the fruit.

TAPIOCA MOULDED.

Soak two cups of tapioca in three pints of cold water all night. In the morning drain off the water which has not been taken up and put the tapioca into a double boiler with two quarts of milk, a cup and a half of sugar and a few blades of mace, let it cook for an hour. Wet a round bowl or a number of cups and turn the mixture into them. Set in the ice box and let it stand until thoroughly cold, turn out and serve with cream seasoned with vanilla. Rice is very good prepared the same way and I always mould it in cups and put a preserved cherry on top of each cup after it is turned out.

STRAWBERRY SHORT CAKE.

Make a dough with one quart of flour, one teaspoon of baking powder, one large spoon of lard and a teaspoon of salt. Make it up with sweet milk roll about half inch thick and cut

into square pieces about the size of an envelope, lay one piece on top of another and bake. When done take off the top pieces and butter, spread between them strawberries either cut into halves, or whole, and sprinkle generously with powdered sugar, put the top back and serve with cream.

CARAVEN.

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I offer for sale two pure bred bulls of the above breed, born Dec. 15, and Jan. 30 respectively, sired by my registered bull, ROCKBRIDGE ABACTOR, No. 40864, and out of pure bred but unregistered cows. The Dec. 15 calf is full brother to one sold last season to Mr. Beard, of Moffatts Creek, Augusta county. The other is out of my largest cow and very promising. These calves will be kept with their dams until nine months old, \$50 each.

I have also a fine registered bull calf that will be ready for delivery in February. \$100. No females sold.

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The females in this herd are prize winners or the immediate descendants of prize winners sired by such noted bulls as Champion Lord Hillhurst, Beau Forbes H., by Beau Bill (champion of the West for two years); Cham. Baron Ida, Ludolph 4th, Rustler 2d.

Choice calves from the above cows sired by Baron Ida, Encouragement 46832, and Erard 55380.

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V. P. I. Farm Bulletin

We are now offering some choice young Bulls of the following breeds:

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Blacksburg, Va.**



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International Stock Food Co., Minneapolis, Minn.

GENTLEMEN:—Word comes to us that one of Elkhart's prosperous farmers, John Rueb, is the champion hog raiser of central Illinois. In the last two weeks he has had thirteen sows that farrowed 129 pigs, all living, healthy and strong. Mr. Rueb claims that his success is greatly due to his using "International Stock Food," which he has used for several years. John is one of the up-to-date farmers and he will continue to use "International Stock Food," and says he can always raise more pigs than any of his neighbors unless they use "International Stock Food." **From—ST. JOSEPH RECORD.**

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IF YOU ANSWER THE "TWO QUESTIONS" AND SEND FOR BOOK DESCRIBED ABOVE.

Polly found her spelling-lesson very difficult, so her governess bought a pictorial book, in which every word possible was illustrated. Then Polly got on rapidly—so rapidly that Miss Miller began to be suspicious. So she put her hand over the picture, and then asked Polly:

"What does o-x spell?"

"Ox," answered Polly.

"How do you know?"

"Saw his tail!" exclaimed Polly gleefully.

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MUSIC AS APPLIED TO THE NEGRO PROBLEM.

MARY WASHINGTON EARLY.

In slavery times, music formed a large and important element in the lives of the negroes. It was the spontaneous expression of their naturally cheerful, mirthful temperament. They had harvest songs, corn shucking songs and above all, they had hymns in great abundance, with monotonous, childish words, but often with beautiful airs, some of them plaintive, and others exultant. Strangers visiting Richmond before the war were always carried to the tobacco factories to hear the negroes sing at their work, and the visitors were astonished and delighted at the rich, mellow voices of the sable singers, the accuracy with which they carried the different parts of the song, and the perfect time they kept. "Toll the bell for lovely Nell, my dark Virginia bride," "Camptown Races," "Uncle Ned," "Stop that knocking at my door," and many other native songs were sung on these occasions. Then there was wonderful singing at the old African church in Richmond, for the negro (who really is of a religious nature when not corrupted or inflated by evil counsel) is in his element when singing hymns, doing so with an unction and "abandon" which no white man but Moody or Sanky could emulate.

But after the negroes were liberated, and especially after a new generation had grown up, singing at their work was gradually dropped, as care and responsibility increased upon them, and their old light hearted mirthfulness died out. In the last year or two, however, I have noticed with pleasure that an effort is being made in some localities to revive the old time singing of negroes at their work, and I trust that the system may become generally inaugurated, as I believe it will have a beneficial moral effect on them, appealing to and softening their emotional nature.

About a year ago, I read a statement in a Louisville paper that "a piano is now a part of the complement of machinery in use in the factory of the American Tobacco Company, of Louisville, and the department of music has received official recognition in every tobacco manufacturing establishment operated by the Continental or American Companies." It was suggested to Mr. Smith, the general manager, that the stemmers in the leaf department of the Continental factory be allowed to sing while working, and as Mr. Smith remembered that the singing darkey in slavery times was the best worker, he agreed to this suggestion after consulting with the superintendent. The experiment met with such success that it was soon adopted by other factories under the same control. It was found to have a favorable effect both on the spirits and work of the employees. They were always in a good humor, and far

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Families represented in the herd are Coquette, Queen Mother, Nosegay, Westertown Rose, Old Rose of Advia, Violet, etc. We claim for our herd as good breeding as any herd in America. The individual animals in the herd have been selected with the one aim "quality" in view. Come and see, or write your order and let us guarantee a first-class animal.

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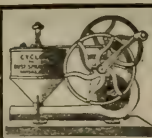
ized entirely out of well trained and highly educated negro musicians, I believe the results would be fine, but probably such an experiment, if made at all, would have to be carried out in one of the old countries.

But I have, however, a far more feasible suggestion to make in regard to music amongst negroes: I would strongly advocate its introduction into the negro schools. While we are paying millions to have them taught Latin, grammar and algebra (which make them neither more useful nor moral citizens) let some of that money and a very considerable part of it, be applied to introducing music into negro schools, and thence indirectly into their homes. Have an organ or a piano (or both) with some competent person to play on them and to instruct the negro pupils in music. I venture to say they will prove apt ones, as a love and quick ear for music are gifts that nature has bestowed on the sable race. I was especially struck with this fact in the case of a raw, uncouth little negro girl of the "Topsy" type, in the service of a family who bought a very fine large concert graphophone which played "Rusticana Cavalleria," the "Toreador" song from Carmen and other classical music. A few days after its arrival, the little negro girl might be heard, repeating these intricate airs with wonderful accuracy, as she picked up her chips or performed her other simple tasks. Their quick ear for sound enables them to learn to spell and read more rapidly than white children, though they do not keep up with the latter after the first stages of learning are passed.

The benefit that negroes have derived from the school routine is a questionable point. I see negro boys staggering under the weight of their school books (including Latin and algebra) and yet doubtless there are some among them who would, if opportunity were given, commit the most monstrous crime known to humanity. What they need far more than book learning is moral training and restraint, and music would conduce to this by softening and refining their natures, and supplying them with an innocent source of enjoyment at home, or in their own social circle, for music draws young people together innocently and pleasantly, leads to choir practising and other forms of concerted music, and even when practised in its most primitive forms, exerts a beneficial influence. By all means, then, let the authorities who have such things in charge, see to it that a liberal part of the funds set apart for negro education be applied to introducing music into the negro schools.

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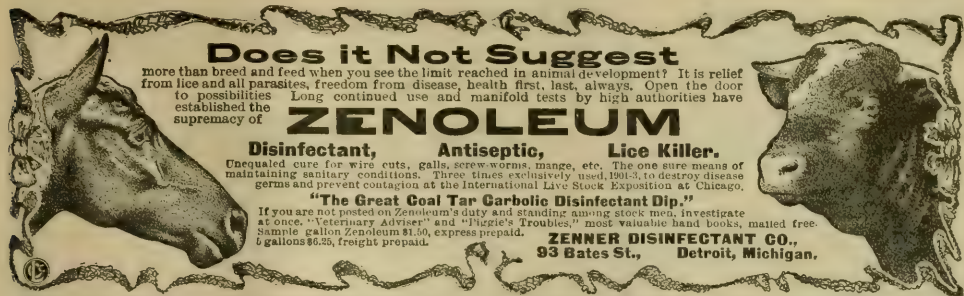
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NAMES OF FERTILIZING ELEMENTS.

In older States nitrogen is commonly sold under the name of "ammonia," phosphorus under the name of "phosphoric acid" and potassium under the name of "potash." To the farmer who really wishes and tries to understand the subject of plant food these names are very confusing; indeed, it is almost impossible for any one but a chemist to understand how these elements of plant food can be bought and sold under such absurd names. Let us consider for example the material sodium nitrate. This contains the three elements sodium, nitrogen and oxygen, as the name indicates (-ate means oxygen), and it is valued only for the nitrogen it contains, which amounts to nearly 16 per cent. in a good commercial grade of sodium nitrate. This is all simple enough. If sodium nitrate contains 16 per cent. of nitrogen this would be 320 pounds of nitrogen in a ton of the material, and, at 15 cents a pound for nitrogen, a ton of sodium nitrate would be worth about \$48. It is both absurd and unnecessarily complicated to sell sodium nitrate on the basis of "ammonia." First, because it contains no "ammonia"; second, because "ammonia" is not what the plant needs; and, third, because it is not "ammonia" that we would wish to buy even if we needed to purchase nitrogen. Ammonia is a compound of nitrogen and hydrogen, but no hydrogen is contained in sodium nitrate, and we have no need to purchase hydrogen, as water contains an abundance of that element.

Let us consider steamed bonemeal. This is valued for its phosphorus content, but in the older States it is sold on the basis of "phosphoric acid." This is perhaps more confusing and more absurd than "ammonia." Phosphoric acid is not contained in bonemeal, and phosphoric acid is not suitable for plant food, and people do not mean phosphoric acid when they say phosphoric acid. What they do mean is phosphoric acid, a compound of phosphorus and oxygen, containing less than 44 per cent. of the element phosphorus, the real thing which we wish to purchase. Phosphoric acid is a compound

Large ENGLISH BERKSHIRES.

BOARS ready for service.

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86 BERKSHIRE PIGS



now ready for shipment; 10 to 12 weeks old, from directly imported sows or from sows of imported blood on both sides: sired by my 4 UNSURPASSED HERD HEADER BOARS from N. Benjafield, C. Collins Smith, James Lawrence and R. W. Hudson all of England. BRED SOWS, GILTS and ready-for-service BOARS. Prices as low or lower than

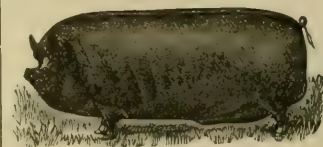
those of any other STANDARD breeders, novices not reckoned.

THOS. S. WHITE, Fassifern^o Stock Farm, LEXINGTON, VIRGINIA.

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are of the bluest blooded strains of English and American breeding. The Boars, Imported LOYAL HUNTER and LEE TOPPER, bred by Biltmore Farms, head the herd. Can furnish pigs out of imported sows and by imported boars; also from best American bred animals, grand-daughter of such celebrated boars as First Catch F, Manor Favorite, etc.

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We breed and ship the best strains of

Large ENGLISH BERKSHIRES

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6 coming 2 year old JERSEY HEIFERS for sale; also 2 fine Jersey Cows; 1 yearling heifer, a perfect beauty. Write for price.

ALEX. HARMAN, Mgr., Lexington, Va.

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SOUTHERN PLANTER.

of phosphorus, oxygen and hydrogen, the last two elements being contained in water. Even phosphoric acid is not contained in bonemeal, and that compound would not be a suitable form of phosphorus for plant food. Why all this unnecessary complication? Good steamed bonemeal contains about 12½ per cent. of phosphorus, or 250 pounds of phosphorus in a ton. This is a valuable element of plant food. At 12 cents a pound for phosphorus the steamed bonemeal would be worth about \$30 a ton. This is all simple and plain enough so that any one can easily and fully understand it, the farmer as well as the fertilizer dealer or manufacturer.

Again, let us consider such a material as potassium chlorid, a compound of the two elements potassium and chlorine, containing in the common market grade about 42 per cent. of the element potassium. This compound is commonly sold in the older States under the incorrect and confusing name of "muriate of potash," and it is sold on the basis of "potash." The term muriate, ending in -ate, would indicate that this material contains oxygen, but this is not true, as it contains only potassium and chlorine, although there is no indication of chlorine in the name of muriate of potash. Potash is a compound of potassium and oxygen, containing 83 per cent. of the element potassium; but there is no oxygen in potassium chlorid, and consequently there is no potash in potassium chlorid. Furthermore, potash, which is potassium acid, is a lye ("this is no joke") and not suitable for plant food, and it contains the element oxygen which nobody cares to purchase, as the air is one-fifth oxygen and water is eight-ninths oxygen.

Potassium is a valuable element of plant food. Ordinary potassium chlorid contains about 42 per cent. of that element, or about 840 pounds in a ton of material, which at 6 cents a pound for potassium would be worth \$50.40 a ton. This again is direct and simple and all that is necessary fully to understand the purchase of this element.

Of course we can say "potash" and explain what we mean by it. For example, if potassium chlorid contains 42 per cent. of potassium it contains sufficient potassium to make about 50 per cent. of potash if the potassium were made to unite with oxygen to form potash, but as the potash which might thus be formed would contain oxygen its value per pound would be

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Berkshire sows due to farrow in April and May, several boars large enough for service, pigs in pairs or trios not akin.

EGGS FOR HATCHING from Bronze turkeys, Pekin ducks, B. P. Rock and Brown Leghorn fowls. A few trios for sale, also a fine lot of Fox Terrier puppies by imported Rozanne.

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Choice PIGS, BOARS and GILTS of fine breeding and individuality; also

SHROPSHIRE RAMS.

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ers, but no equal.
Proves its superior-
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Makes tight sharply-baled, not
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avoids accidents and endures. Little draft, tremendous
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38 Styles
and Sizes.

less than that of potassium, the value of potash depending entirely on the amount of potassium it would contain. By remembering that potash would contain only about 83 per cent. of potassium it will be seen that with potassium at 6 cents a pound would be worth only about 5 cents a pound, and consequently that a ton of potassium chlorid (or shall we say "muriate of potash"?) containing sufficient potassium to make 50 per cent. of potash would contain in one ton enough potassium to make 1,000 pounds of potash, which at 5 cents a pound for potash would make \$50 a ton for potassium chlorid; or if we were to make all the computations with absolute accuracy it would come out \$50.40, as given for potassium.

I once spent nearly two hours' time with a very progressive and intelligent Illinois farmer who desired me to explain exactly what muriate of potash is and what the analysis showing 50 per cent. of potash means. After nearly two hours' work he actually gave the problem up, saying that he could not understand it. As a chemist I can understand it, but I cannot understand why scientific men working in the interest of agriculture should encourage the continuation of such an outrageous system for reporting the analysis of fertilizers or plant food materials. About the only reason which is ever given for using the terms ammonia, phosphoric acid and potash is that they do so in the older States, although there are some people who say that the farmers do not need to understand the matter.

It may be that there would be some difficulty in the older States in changing from these long-used though misused names to the names of the elements, but it would be no more difficult than to change from the older money systems to the decimal systems, as has been done by almost every civilized nation excepting England, or to change from the old cumbersome systems of weights and measures to the simpler metric system, as has been done by nearly all countries excepting the United States and Great Britain. Certainly we have no right to force these old incorrect and meaningless names on the progressive farmers of the great Central West. They desire to understand both the practice and science of agriculture. It is only in agriculture that these absurd names are used. In the steel and iron industry, when they have anything to say about phosphorus, they say phosphorus; in pharmacy and medicine when they say phosphoric acid they mean phosphoric acid.

In a late publication from the United States Department of Agriculture,

Bear in Mind

everything.

The pioneer exclusive hog remedy, the peer of them all, the one that has stood the severest tests for nearly 30 years, the one used by leading hog raisers in America and Europe, the one that is guaranteed by a guarantee, that guarantees is DR. JOSEPH HAAS HOG REMEDY. Prices, 25-lb. can, \$12.50; 12½-lb. can, \$6.50 prepaid; packages, \$2.50, \$1.25 and 50 cents each. None genuine without my signature on package or can label.

ABSOLUTELY GUARANTEED

HOGS PAID FOR IF THEY DIE.

When my Remedy is fed under the conditions of my Insurance Proposition. Any bank or trust company in Indianapolis, or the insurance agencies, will tell you that I am financially able to carry out my insurance contracts.



Building owned and occupied by J. S. Haas.

HOG BOOK FREE

"HOG LOGY," my book about hogs, will be sent FREE if you mention the Southern Planter when asking for it. It tells all about my insurance proposition and makes hog-raising easy to all who follow the advice given. It covers the subject of hog raising from A to Z, not in theory, but through facts as found in a lifetime devoted to the study of the hog.

JOS. HAAS, V. S., Indianapolis, Ind.



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Thirteen years' successful use has proven Manfield's MAGIC STOCK FOOD to be absolutely the best animal Tonic and system Regulator for HORSES, CATTLE, SHEEP and HOGS. It contains all the necessary requirements. It is purely vegetable, and is guaranteed to be safe and effectual, or money refunded. A hard winter on stock leaves them in a run down condition, and in such cases Magic Food is necessary. Stock and Poultry raising cannot be entirely successful without Magic Food. MAGIC FOOD is imitated. Get the genuine, avoid substitutes.

Every Farmer and Stock Owner who sends his address to the Magic Food Co., Chattanooga, Tenn., will receive free by mail a valuable book on the management of Stock and Poultry, and three nice colored pictures, without advertisements and well worth framing.

Magic Poultry food will KEEP THE FLOCK HEALTHY, and make hens lay. Sold by 3,000 dealers in 33 States.

If your dealer does not keep it, write to us.



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Can save you Money, save your Horse,
save your Mule or save your Cow.

Home Treatment for Horses and Cattle.

Sick and Lame Horses Made Well. Weak Cows Made Strong. Better Breeders and Milkers.

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Bureau of Soils (Bulletin No. 22, "The Chemistry of the Soil as Related to Crop Production"), all analyses reported show the amount of the element potassium and not potash.

Already several of the States have passed laws compelling the use of nitrogen in place of ammonia in fertilizer analysis and the Illinois Legislature upon request of the Illinois State Farmers' Institute has passed a law requiring that all fertilizers sold in this State shall bear a statement of the analyses which shall show the exact percentages of the three elements nitrogen, phosphorus and potassium contained in the fertilizer sold. The Illinois fertilizer manufacturers supported the bill for this law making the purchase and use of plant food more readily intelligible to the farmer, and it is not too much to hope that other States will join in reducing the purchase and sale of fertilizers and the use of plant food to the simplest possible basis. CYRIL G. HOPKINS.

University of Illinois.
(To be Continued.)

THE DEMING POWER SPRAYING OUTFIT.

One of the most satisfactory gasoline spraying outfits is the one lately brought out by the Deming Company, of Salem, Ohio, the well known manufacturers of spraying appliances. We reproduce this model outfit complete, engine, sprayer and tank mounted on a wagon all ready for use. The pump is double acting and may be speeded to 50 revolutions per minute. Safety



valve and pressure gauge are fitted to the air chamber which may be relieved at any desired pressure up to 125 pounds. The tank is provided with mechanical agitator to secure a perfect mixing of spraying material. The engine is perfect working and has every provision for safety. It is water cooled, water being supplied by an ingenious piping and doing away with the necessity for pumping. The base of the outfit is a cast iron frame for the cooling water. It is provided with strong electric igniter and its current is furnished by improved dry batteries. The oiling is simple and there is easy access to every part.

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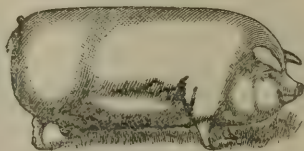
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Rising 2 years old, mahogany bay, white hind feet, diamond between nostrils; also a Reg. SHORTHORN BULL, red with white switch; good enough to show in any company. Stock guaranteed as represented or can be returned at my expense.

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Registered Herd—First Premium stock; largest and most prolific in record: 3 Sows 11 Pigs; breeding Stock 100 to 700 pounds; easy feeders and quickly developed. Sows, Boars and Pigs for sale. My time to this breed exclusively. Only strictly first class stock shipped.

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Reference: Farmers and Merchants National Bank, Winchester, Va.

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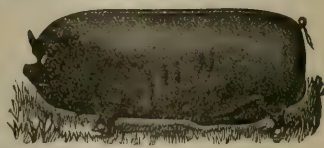
Pigs from 4 to 6 months old. Boars ready for service, and young sows with pigs. Tamworth pigs 8 wks. old \$5. Prices Reasonable. Apply to

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We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

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Proprietor of the Bridle Creek Stock Farm, Warrenton, N. C.



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the Cinner, the Farmer, the Miller, the Sawyer, or Anybody Else who desires a highly efficient power which will require little space, nothing quite equals the

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Headquarters for **GOLDENLAD JERSEYS,**

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GOLDEN LAD'S SUCCESSOR. First and sweepstakes over all at the Pan-American Exposition, the champion JERSEY BULL OF AMERICA, and out of Golden Ora, our great prize-winning cow, both born and developed on these Farms, is among our service bulls.

Biltmore Jerseys are a combination of large and persistent milking qualities with an individuality that wins in the show ring.

SPECIALTY. Write for descriptive circular of the best lot of young bull calves ever offered, both for breeding and individuality. They are by noted sires and out of large and tested selected dams. Many of these calves are fit to show and win in any company.



BILTMORE POULTRY YARDS.



SPECIALTY. Write for descriptive circular of eggs from our prize-winning pens. Over 50 yards to select from, made up of the winners at the leading shows for the last two seasons. If you want winners you must breed from winners.

Headquarters for the best **IMPORTED ENGLISH BERKSHIRES.**

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EGGS FOR HATCHING

The Imperial Fruit and Poultry Farm

❀ ❀ Is now booking orders for eggs for hatching from strictly pure, high-class poultry, at \$1.00 for 15 eggs, except duck eggs, which are \$1.00 for 13. ❀ ❀

BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS,
SINGLE COMB WHITE AND S. C. BROWN LEGHORNS,
SILVER LACED AND WHITE WYANDOTTE,
MAMMOTH PEKIN DUCKS.

Satisfaction Guaranteed. Write your name and address plainly.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

A HAT-PIN.

ALL ABOUT IT.

Oh, Reginald Van Buren lived
A very happy life,
Until one day a gift he bought
And gave it to his wife.

The gift was just a hat-pin, but
The head was an odd tint,
A sort of brown enamel with
A lovely reddish glint.

Was Reggie's wife delighted? Well,
Delighted!—she was that!
She cried, "To match this hat-pin, why,
I'll have to have a hat!"

She got a hat to match the pin;
To match the hat, a veil;
And now we are but started on
This very thrilling tale.

To match the veil she got some gloves;
To match the gloves, a purse;
And from that moment, really,
Things went from bad to worse.

To match the purse she got a skirt;
To match the skirt, a waist;
To match the waist she got a cloak:
All chosen with good taste

To match the hat-pin. Then she
bought
Innumerable things.
From lingerie to things you see,
From shoestrings up to rings.

To match this toilette all complete
The parlor was arranged;
To match the parlor, next the house
From basement up was changed.

But when this transformation scene
Was finished and complete,
The dear dame thought the dwelling-
place
Was better than the street.

And so she found a street to match
Her dwelling and her gown;
And then, "Alas, alack!" she cried,
"The street don't match the town!"

Poor Reginald Van Buren stormed,
While Mrs. Reggie cried;
She had hysterics, got quite ill,
And pined away and died.

L'ENVOI.

So, husbands, now take warning all,
Unless you'd live in strife;
Give any mortal present but
A hat-pin to your wife.
—Harold Melbourne, in May Lippon-
cott's.

Mr. W. A. Sargent, the owner of the famous Maplemont Stock Farm Collie Kennels, has sold his farms and lands in Vermont and bought a place in South Athol, Mass. This move on the part of Mr. Sargent, is made that he may devote his whole attention to Collies, of which he makes a specialty. The new address is Maplemont Kennels, South Athol, Mass.

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STERLING SILVERWARE AND CUT GLASS.

SIX SOLID STERLING SILVER TEA SPOONS, \$3.30. Write for our catalogue; it contains many articles on which we can save you money.

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19 & 21 So. 13th St., Richmond, Va.

References: American National Bank and Richmond merchants generally.

HEALTHY BEDROOMS.

Each person requires 1,000 cubic feet of air in the sleeping room. Measure the room you sleep in and see if you have 1,000 cubic feet. Multiply the length by the breadth, and then multiply this product by the height of the room, and if this equals 1,000 you have 1,000 cubic feet. For instance, your room is 10 feet square and 10 feet high, then you have exactly 1,000 cubic feet in your sleeping-room. A room of this size, if it is well ventilated, is, says Science Siftings, sufficient for healthy respiration. If it is smaller than this, it is insufficient. If your sleeping-room is only eight feet high, it should be a little over eleven feet square. From these examples anyone can figure up for himself the size of his sleeping-room. Generally speaking, however, if more attention were paid in the direction of keeping bedroom windows open all night, summer and winter, less attention would be required as to the size of the room.

"NO MORE DOCTORS FOR ME."

East Troy, Wis., April 16, 1904.
Dr. Jos. Haas, Indianapolis, Ind.:

Dear Sir,—I would not be without your Remedy. A party at Beloit has just lost \$10,000 through the loss of his herd of fine hogs. He had Doctors there night and day but they were of no use as the hogs died just the same. I do not think he was wise or he would have used Dr. Haas' Hog Remedy. I employed the best doctor in Waukesha county when my hogs were sick yet they died. No more doctors for me as long as I can get Dr. Haas' Remedy. Truly yours,

F. A. RHODES.

At a concert held at a certain town a soldier of the Black Watch occupied a seat in front of a private of an Irish regiment and his sweetheart. The latter was very much interested in the Highlander's uniform, and scanned the regimental badge on his cap and collar particularly. This badge is the figure and cross of St. Andrew, with the motto, "Nemo me impune lacessit." (No one annoys me with impunity.)

"Phwat does that writin' mane, Patsy?" asked the girl.

"Phvy," replied Pat, "it's Latin, but I've forgotten the English av it. But in good old Oirish it manes, 'Thread on the tail av me coat if ye dare!'"

IMPORTANT TO FARMERS.

Carthage, N. C., April 9, 1904.—I have carefully examined the plan of Bryan Tyson for balancing the manure of various domestic animals and I find it to be correct and easily proven.

I believe that if it is generally used by the farmers it will result in much benefit to them. J. J. PAYSEUR,

Prin. of Carthage Academy.
Carthage Blade, April 28, 1904.

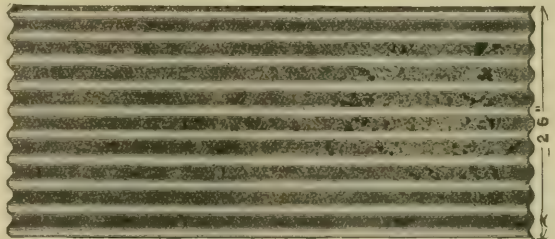
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Painted Corrugated Roofing, Painted V. Crimp Roofing, Roofing Tin in boxes or rolls, Tarred Roofing Felt, Perfected Granite Roofing.



Send us the DIMENSIONS OF YOUR ROOF, stating KIND OF ROOFING wanted, and we will quote you on sufficient quantity to cover it.

You can ADD YEARS to the life of your roof by painting it with our

Magnet Red Roofing Paint.

1 gallon will cover 2½ squares. Can furnish in any size package, 1 gallon up. Only the very HIGHEST GRADE material enter into the manufacture of this paint. Write for prices.

We also carry a complete stock of Conductor Pipe and Gutter, Solders and Metals; Galvanized and Black Sheet Iron, etc.

Southern Railway Supply Company,

1323 East Main Street,

RICHMOND, VIRGINIA

IGNORANT OF ITS USE.

Old Doctor Miskelli, of the Red Bank neighborhood, was very fond of chewing tobacco, and he was, moreover, a bit careless as to where he expected it.

On one occasion he had called at the home of Mrs. Simmons, an old lady who believed that cleanliness comes next to Godliness. This lady, knowing the spitting proclivities of the Doctor, had provided for his use a fancy china cuspidor. The Doctor, however, ignored its presence and continued spitting upon the floor of the veranda where they were seated. At the same time Mrs. Simmons kept moving the cuspidor gently into a more and more favorable position for the old gentleman's use.

Finally, becoming exasperated at the queer doings of his hostess, the Doctor with some warmth exclaimed,—

"Mrs. Simmons, if you don't move that thing I'm going to spit in it!"—Hugh A. C. Walker, in May Lippincott's.

Nothing but the best and purest shaving soap should ever be used on the face. The tendency to use "any old soap" is dangerous and untidy and often causes soreness and irritation that may result seriously. Poor soaps bite and sting and take the edge off your razor; in fact, they are unsatisfactory in every way. We advise the use of Williams' Shaving Soap as a means of overcoming all these difficulties. Send a 2 cent stamp to the J. B. Williams Co., Glastonbury, Conn., for a trial sample.

A student in one of the theological seminaries recently went up for examination, and it was seen that he was sadly deficient in his knowledge of the Bible. It was also seen that he could not pass, but the examiner, who wanted to show that he knew something, asked him if there was any verse in the Bible that he knew. Yes, the young man knew one.

"What is it?"

"Judas went out and hanged himself."

"Don't you know any other?"

"Yes, just one."

"You may repeat that one also."

"Go thou and do likewise."

Have you read the story of "Samuel Slow and Solomon Spry"? It tells about saving work and making money on the farm. Send for a free copy. Electric Wheel Co., Quincy, Ill.

A sheep dip that kills insects without injury to the animal or its skin and fleece, prevents fresh attacks, kills nits and eggs, also in one dipping, has no objectionable smell and acts also as a tonic and stimulant to the fleece certainly has claim to patronage. The Cooper Dip claims all these conditions.



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Large Illustrated Catalogue for 1904 just issued, embracing Hand, Horse and Power Labor-Saving Implements.

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NORFOLK FARM SUPPLY CO.

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Season is at hand. HEN PRODUCTS higher than ever. Our prices low. Write for Free Catalogue.



SPRAY NOW

and save your fruit and vegetables. CATALOGUE and SPRAYING CALENDAR giving FORMULAS, free for the asking.

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Pumps, Wind Mills, Rams, Fencing, Gasoline Engines, etc.

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The ROCKER CHURN

Gets the butter from the cream down to the thousandth part. Made of tasteless wood and the churning process is entirely the result of its own motion—no machinery inside or out to get out of order or require oiling.

Its Special Advantages

are: 1—Simplest. 2—Least friction. 3—Gravity does the churning; a child can operate it. 4—Absolutely no adjustments, always ready. 5—Nothing but the churn box to clean, easily accessible. 6—Violent agitation of cream without puddles or dashers. 7—Gives the finest grade of butter of any churn on the market. WE PAY THE FREIGHT.

Your money back if not satisfied. In eight convenient sizes, 8 to 60 gallons. Prices right as the quality. Illustrated circulars free. Rocker Churn Mfg. Company, Forsyth, Georgia.

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R. R. GWATHMEY, Vice-President,

J. J. SUTTON, Secretary,

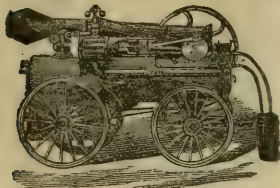
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THE WATT PLOW CO.,

INCORPORATED 1893.

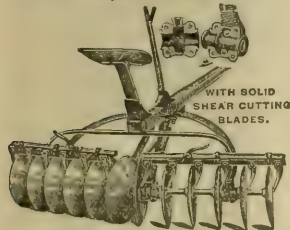
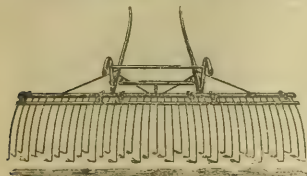
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**Agricultural Implements,
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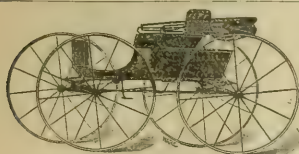


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THE BUFFALO PITTS ALL-STEEL, SPRING-FLEXIBLE, DISC HARROW.

WITH SOLID
SHEAR CUTTING
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BEMENT IMPROVED WEEDER.



ALL STYLES OF BUGGIES.



SPIKE TOOTH HARROW.



SOUTH BEND PLOW.

A full stock always on hand, and prompt shipments guaranteed. South Bend, Dixie and Farmer's Friend Plows and repairs. The Hancock Rotary Disc Plow, warranted to go in the ground where all others fail.

A large and complete stock of open and top buggies, surreys and spring wagons. Fish, Weber and Columbus two-horse Farm Wagons. Champion and Hickory one-horse Wagons. John Deere and Continental Disc Cultivator. Roderick Lean Land Rollers.

Hocking Valley Feed Cutters, Cyclone Shredders, Smalley Feed Cutters, Dain Corn Cutters. Equal to any made. Staver Buckeye Feed Mill and Horse Power Combined.

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Hocking Valley Wine and Cider Mills. Hard wood rollers. The best mill made.

Hocking Valley Corn Shellers, for hand or power. Smalley Electric Pole and Wood Saws, for steam or horse power. Peerless Engines and Saw Mills always in stock. Several good second-hand Engines and other second-hand machinery for sale. "Pittsburgh Perfect" fencing, electrically welded. Barb Wire. Plain Galvanized Wire, Baling Wire, and Bale Ties. Continental Disc Harrows, Buffalo Pitts and Lean Spike Harrows.

A full line of Planet Jr., Garden Tools.

We will be glad to mail you a copy of our new catalogue.



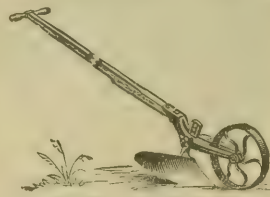
GEISER SEPARATOR.



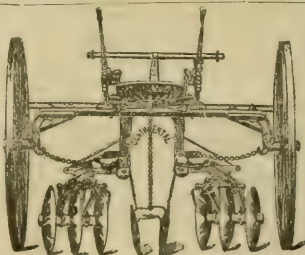
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FISH and WEBER WAGONS.



FIREFLY GARDEN PLOW.



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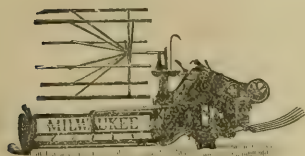


COMBINED CULTIVATOR, AND HORSE HOE.

THE WATT PLOW CO.,

15th and Franklin and 14th and Main Streets, - - RICHMOND, VA.

Farm Implements and Machinery.

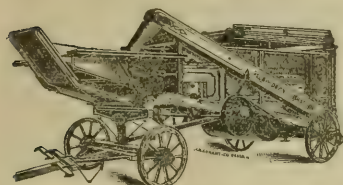


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THE MILWAUKEE LINE OF HARVESTING MACHINERY, MOWERS, BINDERS, CORN HARVESTERS and RAKES have features not found in others, and are the kind that NEVER DISAPPOINT. *Light of Draft, Easy to Handle, Perfect in Operation.* Some machines are made to sell repairs. "MILWAUKEE" is not in that class. Points of superiority fully set forth in illustrated catalogue. WRITE FOR IT.



THE BINDER.



VIBRATOR SEPARATOR.

THE BEST THRESHING OUT-FIT for a thresherman to buy is the Ajax Threshing Engine and Farquhar Separator Engines from 4 h. p. up. Easy steamers develop more than rated horse power. Have driver's seat, foot brake and two injectors. Separators of all sizes with latest improvements, thresh and clean all kinds of grain perfectly.

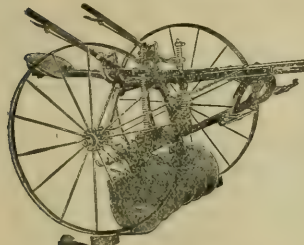


PORTABLE ENGINE.

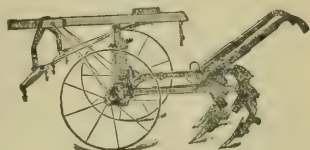
DISC CULTIVATOR and HARROW combined. Made of steel and malleable iron. Light Draft, Great Strength, High Steel Arch, Steel Axle, Steel Wheels, adjustable in width. Discs adjustable in depth and at any angle.

WALKING AND RIDING CULTIVATORS with four, six or eight shovels and spring teeth.

THE MOLINE AND IMPERIAL WAGONS, Built of air dried timber, and all material the best that can be procured. Finished with three coats of paint put on with brush (not dipped in it). Durable, neat and attractive style. BALING PRESSES for Horse, Steam and Hand Power.



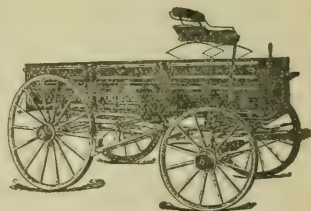
DISC CULTIVATOR.



WALKING CULTIVATOR.



IMPERIAL ONE HORSE WAGON.



THE NEW MOLINE.



"BOY" HAY PRESS.

PLOWS and PLOW CASTINGS of all kinds. OUR ROAD PLOWS are especially recommended for Country Road Building.



FULL CIRCLE HORSE POWER PRESSES.

IRON AGE PATTERN CULTIVATORS, DISC HARROWS, LEVER HARROWS, GRAIN DRILLS, EFED CUTTERS, FIELD ROLLERS, MANNURE SPREADERS, PEA HULLERS CANE MILLS, SAW MILLS, GRINDING MILLS, etc. Write for prices.

13 So. Fifteenth Street,
Between Main and Cary.

Established by
GEO. WATT, 1840.

THE CALL-WATT CO.,

MANFRED CALL, Gen'l Manager.

RICHMOND, VA.

USES OF COAL-OIL.

A few drops on your dusting-cloth will brighten your furniture, as well as prevent dust from flying from the cloth.

One tablespoonful added to each boilerful of water will lessen labor, as well as whiten your clothes when washing.

A few drops added to your boiled starch will make ironing easier.

A few drops on a hinge or roller which has formed a bad habit of squeaking will insure a speedy cure.

A few drops added to the water with which windows are to be washed will save time and labor.

Dip the fingers in the oil, and rub the throat, to give relief from sore throat.

Saturate a cloth in the oil, and rub the rollers, to clean a clothes-wringer quickly.

Saturate a cloth with the oil to clean the sink, bath-tub or basin which has become greasy and discolored from use.—May Woman's Home Companion.

SAVED HIS FRIEND.

This little story is told of two Scotch laddies, who, while fishing in strictly preserved water, for which only one was provided with a permit, were suddenly confronted by the bailiff. One of them quickly collected his tackle and ran his might across the field, the bailiff in quick pursuit. After covering a large tract of country, the angler sat down completely exhausted, and awaited the panting and enraged pursuer.

"Do you know that you should not fish in that water without permission?" asked the irate man.

"Yes," said the lad, "but I have permission. I've got an order."

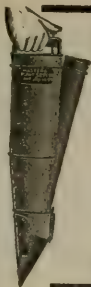
"What made you run then, you young scoundrel?"

"Oh, just to let the other lad away—he hadn't got one."

THE LAW OF WORK.

That there is much discontent with work among the so-called middle classes in America is due in large part to the pampering of children, to the supplying of their natural and artificial wants, and to the sentimental idea that "their day of toil will come soon enough." In general, work is not a curse, but a blessing—a positive means of grace. One can hardly begin too early to impress upon children lessons of self-help by tasks appropriate to their age and forces, and to beget in them scorn of idleness and of dependence on others. To do this is to make them happy through the self-respect that comes with the realization of power, and thus to approximate Tennyson's goal of man: "Self-reverence, self-knowledge, self-control."—Century.

Liquid fertilizers from stable manure is the stuff to set young plants with. Read Masters Planter Co.'s ad.



Masters Rapid Plant Setter

The only hand mechanical plant setter on the market. Avoids stooping and the drudgery of setting out Cabbage, Tobacco, Tomatoes, Sweet Potatoes, Sugar Beets, etc.

Sets Plants in Water

or liquid fertilizer at just right depth and so they stand erect. At its best when weather is driest and hand setting means failure to grow. Assures better stand of quicker starting, better growing plants. With a little practice one man will set 8,000 plants a day.

Ask your dealer for Masters Rapid Plant Setter. If he does not handle it send us his name and we will see that you are supplied. Write for particulars. Circulars free.

Masters Planter Co., 171 South Water Street, Chicago, Ill.



How are Your Eyes?

We are the largest optical establishment South, and give proper adjustment of SPECTACLES and EYE GLASSES. Complete manufacturing plant on the premises. Mail us the pieces and we will, from them, duplicate your Glasses. Glasses by mail our specialty.

Our PHOTO DEPARTMENT

is also complete with CAMERAS, KODAKS and PHOTO SUPPLIES, developing and printing finely executed.

Our line of OPERA GLASSES, FIELD GLASSES, Incubator and Dairy THERMOMETERS, etc., etc., is also complete. Lowest charges in all cases.

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THE SEABOARD

AIR LINE RAILWAY

OFFERS

PROFITABLE

INVESTMENTS

TO

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THE DAIRYMAN,

THE FRUIT GROWER,

THE TRUCKER.

WHERE YOUR LABOR IS NOT IN VAIN.

Would a country where work can be carried on the entire year and where large profits can be realized interest you?

The SEABOARD Air Line Railway traverses six Southern States and a region of this character. One two cent stamp will bring handsome illustrated literature descriptive of the section.

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Gen. Industrial Agt., Portsmouth, Va.

EDW. W. COST,

Traffic Mgr.

CHARLES B. RYAN,

Gen. Pass. Agt., Portsmouth, Va.



.....LAIDLAW'S.....

Concentrated Tobacco Powder, Sheep Dip and Cattle Wash.

A SURE CURE FOR THE EXTERMINATION OF

Scab and Tick in Sheep. Lice on Horses and Cattle.
Lice on Hogs. Mange on Dogs.

Kills all vermin. Allays all irritation. Promotes growth of wool. Makes animal feel well and take on flesh.
ABSOLUTELY NON-POISONOUS.

PRICES: 5-lb. bag, 75c.; 10-lb. bag, \$1.25; 25-lb. bag, \$2.60; 50-lb. bag, \$5.00.

One 50-lb. bag makes 500 gallons Dip for Scab, and 1000 gallons for Tick, etc.

SOLE MANUFACTURERS,

LAIDLAW, MACKILL & CO., Limited, Richmond, Va., U. S. A.

To be Had at all Leading Drug Stores.

MONEY SAVED HERE.

A few articles quoted below will convince you that for cash you can live cheaply by dealing with us. We have a complete line of groceries, feed and liquors. Should you need anything not quoted here, write for prices. These prices are subject to changes in the market. We charge 10c. per gallon extra for jugs. Our goods guaranteed to be first-class. Goods delivered free of drayage to any depot. All prices f. o. b. here.

Granulated Sugar, per lb.....	43c.	Good Oats, per bushel.....	50c.
Arbuckle's Coffee, per lb.....	11c.	Best Timothy Hay, per ton.....	\$19.00
Best Meal, per peck, 20c.; or, per bushel.....	75c.	No. 1 Mixed Hay, per ton.....	18.00
Pride of Richmond Flour, per sack, 35c.; or, per bbl. \$5.40		No. 1 Clover, per ton.....	16.00
Daisy Flour, per sack, 33c.; per bbl.....	5.25	Bran, per ton.....	25.00
Good Green Coffee, per lb.....	9c.	Ship Stuff, per ton.....	26.00
Best Salt Pork, per lb.....	10c.	Old Crown Rye, 5 years old, per gallon.....	3.00
Good Salt Pork, per lb.....	7c. & 9c.	Old Keystone Rye, 4 years old, per gallon.....	2.50
Best Butcher's Lard, per lb.....	10c.	Old Excelsior Rye, 3 years old, per gallon.....	2.00
Good Lard, 3 lbs. for.....	25c.	Old Capitol Rye, 2 years old, per gallon.....	1.50
Green, Black and Mixed Tea, per lb.....	35c., 40c. & 50c.	Pure N. C. Corn Whiskey, 2 years old, per gallon.....	2.00
Best Cheese, per lb.....	12 1/2c.	Pure N. C. Corn Whiskey, 5 years old, per gallon.....	2.50
Best Cut Herrings, 3 dozen for.....	25c.	Duffy's Malt Whiskey, per bottle.....	80c.
Best Roe Herrings, per dozen.....	18c.	O'Grady's Malt Whiskey, per bottle.....	75c.
Heavy Bright Syrup, per gallon.....	35c.	Apple Brandy, 3 years old, per gallon.....	2.50
Best Genuine N. O. Molasses, per gallon.....	60c.	Virginia Apple Brandy, 5 years old, per gallon.....	3.00
Good Dark Molasses, per gallon.....	25c. & 35c.	Geneva Gin, 3 years old, per gallon.....	2.00
Soaps, 8, 7, 6, 10 and 11 bars for.....	25c.	London Dock Gin, 5 years old, per gallon.....	2.50
Large Cans Tomatoes, per can.....	7c.	Wilson Whiskey, per bottle.....	1.00
Large Cans Table Peaches, per can.....	12c.	Buchu Gin, for kidneys, per bottle.....	1.00
3 Plugs Grape, Peach, Apple, Plum, Reynolds' Sun		Catawba Wine, per gallon.....	50c.
Cured Tobacco for.....	25c.	Blackberry Wine, per gallon.....	50c.
Best Lemons, per dozen.....	12c.	California Sherry Wine, per gallon.....	1.00
Good Corn, per bushel.....	68c.	(Sacks for corn and oats, 5c. extra.)	

Remittance must accompany all orders. Send P. O. or Exp. Order, Reg. Letter, for what you want.

J. S. MOORE'S SONS, Inc.,

No. 1724 East Main Street,
RICHMOND, VA.
'Phone 507.

HOW TO MAKE PIN-MONEY.

A profitable and interesting way to earn pin-money is by making raffia shopping-bags. They are made the same as the shoe-string bags, the knot being the same, and a fringe left at the bottom for a finish. These bags hold a surprising amount. Fifteen cents' worth of raffia will make a bag that will retail for one dollar, or one dollar and fifty cents if it is lined with bright silk.

Another way to earn spending-money is by making fish-net out of carpet-warp. Two spools, costing twenty-five cents, will make a net that one could retail for two dollars and fifty cents. In a college town the nets are always in demand for the students' rooms, being used for draperies or to hold pictures. A child as well as a grown person can make a net, as it is quickly and simply done.—May Woman's Home Companion.

A LITTLE GIRL'S LOVES.

Bessie (aged five) was accustomed to come to her mother's room before the family was up. One Sunday morning, while making the customary visit, the odors of breakfast in preparation managed to reach the sleeping-quarters. Bessie, with her arms round her mother's neck, gave one or two vigorous sniffs, then with an air of anticipation announced, "Mamma, there's two fings I dess love mos' of enyfin in der world."

"What are they, Bessie?" asked her mamma.

"God and baked beans," Bessie replied, smacking her lips.—Lippincott's Magazine for May.

The bookkeeper of an hotel at a well-known golfing resort in Scotland is still pondering over the subtle sarcasm of an English golfer who was a week-end visitor to the golf-links. This gentleman unwisely failed to make a "contract" on arriving, with the result that he was presented with an outrageous bill on his departure. Paying it without a murmur, he asked, "Have you any penny stamps?" "Oh, yes," said the bookkeeper. "How many do you want, sir?" Very sweetly the visitor answered, "Well, how much are they each?"

WANTED—A PIN.

It was Mabel's first appearance at church and she was rather fidgety. First she wanted one thing, then another. Finally she decided that she must have a pin, so she asked for one from her father. He had none. Then she tried her mother; but her mother too had none. Mabel's longing had been increased with her ill success, so she climbed upon the pew and shouted at the top of her small voice,—

"Has anyone in this crowd got a pin?"
—May Lippincott's.

Mention the SOUTHERN PLANTER in writing.

Best for medicinal uses

Your physician will tell you that you should always have some good whiskey in the house. For accidents, fainting spells, exhaustion, and other emergency cases, it relieves and revives. But you must have good whiskey, pure whiskey, for poor whiskey, adulterated whiskey, may do decided harm. HAYNER WHISKEY is just what you need for it goes direct from our own distillery to you, with all its original strength, richness and flavor, carrying a UNITED STATES REGISTERED DISTILLER'S GUARANTEE OF PURITY and AGE and saving the dealers' enormous profits. We have over a quarter of a million satisfied customers, exclusively family trade, who know it is best for medicinal purposes and prefer it for other uses. That's why YOU should try it. Your money back if you are not satisfied.

Direct from our distillery to **YOU**

Saves Dealers' Profits! Prevents Adulteration!

HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

**4 FULL \$3.²⁰ EXPRESS
QUARTS PREPAID**

We will send you FOUR FULL QUART BOTTLES of HAYNER'S SEVEN-YEAR-OLD RYE for \$3.20, and we will pay the express charges. Try it and if you don't find it all right and as good as you ever used or can buy from anybody else at any price, send it back at our expense and your \$3.20 will be returned to you by next mail. Just think that offer over. How could it be fairer? If you are not perfectly satisfied you are not out a cent. Better let us send you a trial order. If you don't want four quarts yourself, get a friend to join you. Shipment made in a plain sealed case with no marks to show what's inside.

Orders for Ariz., Cal., Col., Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash. or Wyo. must be on the basis of 4 Quarts for \$4.00 by Freight Prepaid or 20 Quarts for \$16.00 by Freight Prepaid.

Write our nearest office and do it NOW.

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FORMS THE MOST DIRECT And from Five to Twelve Hours the Quickest **ROUTE.**

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MORE OF OUR ENGINE outfits in use to-day, than the combined output of any three of the largest concerns in existence:

If you wish proof, write us for any number of names of those whom we have supplied in nearly every county in Virginia and North Carolina.

**Draws Water,
Saws Wood,
Shells Corn,
Cuts Feed,
Turns Grindstone.**

What other one thing can possibly take the place of labor to such great extent?



**...WIND WILLS...
Towers and Tanks**

—A SPECIALTY—

With well equipped and experienced force of men to erect same.

Not a day in the year we are not erecting work of this sort in Virginia or Carolinas.

Pumps of every description.

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FALSETTO—ADDIE C.

"One of the handsomest thoroughbreds in America and a sure success as a getter of race horses."—*Major Daingerfield.*

Standing 16¼ and weighs 1,300 lbs. He held the world's record for a mile as a 3 year old and is the sire of "Corruscate" who holds the mile record for Canada 1.38½. All his get win and are racing up to 8, 9 and 11 years of age, and won \$30,000 in 1902.

Fee \$50.00 cash, approved half bred mares \$20.00

All possible care taken to prevent accidents or escapes but no responsibility assumed for any that may occur.

For further particulars apply to D. K. KERR, Manager Antir Stock Farm, Warrenton, Va.

KELLY, 22283. Record, 2:27.

Sire of McChesney, 2:16¾, Etc.

Bay horse, by Electioneer 125, first dam Esther, dam of Expressive 3, 2:12¼; Express, 2:21, etc.; by Express, etc.

Kelly represents the highest type of a trotter, having fine size and the form and finish of a thoroughbred.

For terms of service address

W. J. CARTER, Richmond, Va.

Kelly will serve at my private stables, 1102 Hull St., Manchester, Va.

FOR SALE Standard and registered trotting mare, rich bay, elegantly bred, young and sound. Fit for the road, track or stud. Price, \$250 and worth the money.

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**W. J. CARTER, ["BROAD ROCK."]
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916 E. Main Street, - - Richmond, Va.

Pedigrees of thoroughbred and trotting horses traced and registered stallion circulars prepared.

Representing the Times-Dispatch and Southern Planter, Richmond, Va.; Sports of the Times, Kentucky Stock Farm, California Breeder and Sportsman,

Imported French Coach Stallion

JAVANAIS

By AGNADEL. Dam RAPIDE.

—PROPERTY OF—

Mr. B. H. Grundy, Richmond, Va.

Rich Seal Brown Horse.

16½ hands high; weight 1300 lbs.

Will serve mares during 1904 at A. Pollard's Dunraven Farm, three miles east of Richmond, on New Market Road.

Fee, \$15 to insure.

—ADDRESS—

A. POLLARD,
Rural Route No. 5,
Richmond, Va.

or B. H. GRUNDY,
Chamber of Commerce Bldg.,
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LEPANTO, 0577.

Sire of Wilkie O'Neill, 2.24¼; King O'Neill, 2.31 at two years, etc. Bay horse 15½ hands high; weight 1200 lbs.

By PETOSKY, 3633 son of George Wilke. Fee \$12.50 to insure. Address

BANNISTER & RHODES, Roanoke, Va.

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The following list of papers and periodicals are the most popular ones in this section. We can **SAVE YOU MONEY** on whatever journal you wish:

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	Price Alone.	With Planter.
Times-Dispatch, Richmond, Va.	\$5 00	\$5 00
The Post, Washington, D. C.	6 00	6 00
The Sun, Baltimore, Md.	3 00	3 00
News-Leader, Richmond, Va.	3 00	3 00

THI-WEEKLY.

The World (thrice-a-week), N. Y.	1 00	1 25
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WEEKLIES.

Harper's Weekly	4 00	4 00
Harper's Bazaar	1 00	1 40
Montgomery Advertiser	1 00	1 00
Nashville American	50	75
Breeder's Gazette	2 00	1 75
Heard's Dairyman	1 00	1 35
Country Gentleman	1 50	1 75
Religious Herald, Richmond, Va.	2 00	2 25
Times-Dispatch, Richmond, Va.	1 00	1 25
Central Presbyterian, "	2 00	2 25
Horseman	3 00	3 00

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Wool Markets and Sheep	50	75
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All three	1 50	1 15
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Everybody's Magazine	1 00	1 35
Munsey Magazine	1 00	1 35
Strand Magazine	1 25	1 65
McClure's Magazine	1 00	1 35
Argosy Magazine	1 00	1 35
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Rural Mechanics	1 00	55
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TALL MEADOW OAT GRASS,
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GERMAN MILLET,
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We sell strictly reliable FIELD AND GARDEN SEEDS of every variety at Lowest Market rates, included in which are
RAGLAND'S PEDIGREE TOBACCO SEEDS.

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For Tobacco, Corn, Wheat, Potatoes, &c.

Pure Raw-Bone Meal, Nova Scotia and Virginia Plaster and Fertilizing Materials generally.

Parties wishing to purchase will find it to their interest to price our goods.
Samples sent by mail when desired.

Wm. A. Miller & Son, 1016 Main Street,
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Headquarters for Nursery Stock.

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We make a specialty of handling dealers' orders.

ALL STOCK TRUE TO NAME.

Apples,	Nectarines,	Pecans,	Ornamental and
Pears,	Cherry,	Chestnuts,	Shade Trees,
Peach,	Quinces,	Walnuts,	Evergreens,
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Apricots,			

CALIFORNIA PRIVET, for Hedging.

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... AGENTS WANTED. ...

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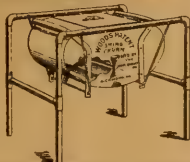
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Southern Planter

A MONTHLY JOURNAL

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J. F. JACKSON, Editor and General Manager.

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JULY, 1904.

No. 7.

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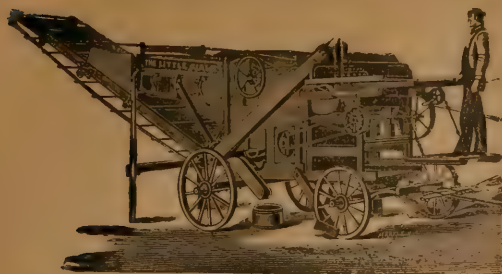
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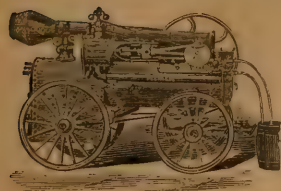
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Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, July, 1904.

No. 7.

Farm Management.

WORK FOR THE MONTH.

In accordance with what has been our practise for many years we open this issue with a review of the progress and condition of the crops at this time. The abnormal weather which has been characteristic of the present year has greatly interfered with crop prospects throughout the country. The winter not only in the South but over the whole country was a long and trying one and the spring has been equally as ungenial. In the South Atlantic States for the past six months there has been a great deficiency in rainfall, many parts of these States not having had 50 per cent. of the average precipitation, whilst in the most favored sections not more than 75 per cent. has fallen. Accompanying this deficiency in moisture there has been also a deficiency in temperature in most of the States. Whilst this deficiency is in the aggregate not large since the crop growing season commenced it has yet been of an unusually trying character on crops. Cold, harsh, dry winds from the north northeast and northwest have prevented crop growth and the warming of the land. As a consequence of these abnormal conditions Winter wheat over the whole country is more or less of a failure. Over 5,000,000 acres of the seeded crop has been plowed up or abandoned and as the area seeded was not in excess of that harvested last year there is a serious deficiency in acreage and this is accompanied by a serious deficiency in condition of that standing. The average condition throughout the country on June 1st was 77.7 as compared with 82.2 a year ago and a ten year average of 79.8. This lowered condi-

tion taken in conjunction with the reduced acreage would indicate a decrease in total production as compared with last year of over 100,000,000 bushels. In the spring wheat sections the area seeded is somewhat less than the area harvested last year and the condition is 93 as compared with 95 a year ago. This would indicate a decreased production of spring wheat and the whole wheat crop of the country is therefore likely to be considerably less than the average. This taken in conjunction with unfavorable reports as to the condition of the crop in England and the continent of Europe leads us to the conclusion that wheat is likely to be higher in price through the fall and winter and that farmers need not be in a hurry to market their crops. If there should be unfavorable weather for harvesting the crop we look to see a substantial rise in the price. In any event it will not in our opinion be likely to sell for less money than the present quotation.

The oat crop is about the average in acreage and is in average condition. In the South the Winter Oat crop is largely a failure and Spring Oats are not promising except in some sections of the mountains. Much of the crop will be cut for hay.

Corn planting has been so much delayed by the cold dry weather that it is difficult as yet to say anything with definiteness as to the outlook. We hear much complaint as to poor stands and slow growth and are afraid that the prospect for a big crop is not of the best. Of course there is still time for much

change in this crop and with warm showery weather for a week or two it may not fail to make an average yield. Still when corn fails to grow right off from the start we have always misgiving as to the outcome.

The cotton crop promises to be a large one as the area planted is nearly 3,000,000 acres in excess of that planted a year ago. The condition is nearly up to the 10 year average. In some of the Texas counties the Boll weevil is again doing much damage. There appears, however, a prospect of circumventing this pest. The officials of the Department of Agriculture who are looking for a remedy have come across an ant in Central America which in that country wages war on the weevils and cleans them out quickly. This ant is to be introduced into Texas and it is to be hoped will in future years save the cotton crop. This year the only hope is in the early maturity of the crop. Late maturing cotton is that which suffers most and to meet this planters have largely used earlier maturing varieties.

Tobacco is late starting as plants were small and scarce generally. In the dark shipping section there is a considerable reduction in the area planted—possibly 20 per cent. and this also is the case in part of the bright section in Southern Virginia and North Carolina where cotton is taking the place of tobacco. In the sun cured section the crop planted is in excess of the average but is late.

The hay crop is not promising to be a heavy one generally, the cold dry weather having checked growth materially. Forage crops have been more generally planted than in the past though the scarcity of Cow pea seed has no doubt considerably curtailed the area that would have been planted in this crop. Sorghum has largely taken the place of the peas and Soy beans have been used in many places where they have not before been tried. We trust that growers of the crop will not be discouraged if it does not make a heavy growth the first year tried as until the soil becomes thoroughly infected with the specific microbe of the plant it is not apt to do itself justice. It should be grown two or three times in succession on the same land and will then, we are satisfied, prove that it is a valuable addition to our forage crops.

From the foregoing it will be seen that we do not anticipate more than a bare average crop year from crops already planted. There is, however, yet time

to improve this outlook by planting crops to increase the yield of stock food and there is every encouragement to do this as there is an excellent demand on the markets for beef, mutton and hog products. All these have advanced materially in value within the past 30 days and beef is now selling at wholesale higher than at any time since the war. It is useless for us to advise the planting of Cow peas as they are practically unobtainable, but Millet, Sorghum and Corn for the silo and for a forage crop can yet be sowed and planted and will make good any deficiency in the hay and fodder crops. Either the German or Hungarian Millet should be sown. For low grounds the Hungarian is the best, for high lands sow German. Prepare the land well making a fine seed bed and sow at the rate of one bushel to the acre. Harrow in lightly and roll if the land is dry enough. Many of our subscribers are seeding Crimson clover with Millet at this season of the year. The Millet shades the clover and often prevents it from being destroyed by the sun. After the Millet is cut for hay the Crimson clover makes its growth and covers the land all winter. Millet should be cut for hay when or just before it comes into bloom. It does not then make a strong draft on the land and the hay is safe to feed to stock of all kinds. If seed is allowed to form the hay is not safe to feed to horses continuously. In our last issue we wrote at length on Sorghum as a forage crop and refer our readers thereto.

The cultivation of the Corn, Tobacco and Cotton crops should have close attention so that the crops may be encouraged to make rapid growth. Cultivate shallow and frequently and keep the soil level. When it is not possible to run the cultivator through the crop without breaking the plants then it is time to cease cultivating but not until then. Before the last working sow Cow peas (if you have them), Crimson clover or Sapling clover in the corn and cotton fields and cover with the cultivator. These will make fall and winter grazing and will help the land materially by conserving the fertility not called for by the main crop. At this season of the year nitrification is very active in the soil and the growing of the leguminous crops conserves this nitrogen and adds largely to it.

After the wheat and oat crops have been cut, if grass or clover was not seeded in them, break the stubble with a disc harrow or cultivator and sow a mixture of Crimson clover, oats, wheat and rye broadcast, say 10 pounds of Crimson clover and three quarters of a bushel of the mixed grain. A couple of pounds

of rape seed may also be added to the mixture with advantage or Hairy vetch may be substituted for the Crimson clover. This mixed seeding will make good fall and winter grazing and will be far better for the land than growing a crop of weeds which only serve to deplete fertility and make work for another year.

Where clover or grass was seeded with the wheat or oats see that the stand is not lost by allowing the weeds to grow up and run to seed after the grain is cut. We have seen many a fine stand of clover and grass lost in a few weeks after harvest by the weeds growing up and taking all the moisture and fertility out of the soil. Run the mower over the fields as soon as the weeds begin to shoot up and repeat the work as needed. The cuttings will mulch the clover and help it.

Dwarf Essex rape may be seeded this month and in August for fall and winter pasture for sheep, hogs and young cattle. It may be sown either broadcast or in drills. It makes the best crop sown in drills 2 feet 6 inches apart and thinly in the drills. About 2 or 3 pounds of seed will sow an acre in drill whilst 4 or 5 pounds will be needed if sown broadcast. As a green feed for hogs and sheep it is most valuable and can be grazed until winter and will then spring up again in spring unless the winter be a very severe one.

Prepare the land for Rutabagas and turnips. Break the land deeply and make it fine by repeated harrowing and rolling. The land should be made rich if a heavy crop is to be grown. Farm yard manure and acid phosphate and potash are suitable manures for these crops and should be applied liberally—500 or 600 pounds of acid phosphate to the acre is none too much to apply. They make the best yield sown in drills 2 feet 6 inches apart and the plants should be thinned out with the hoe to stand 10 inches apart in the rows. Sown in drills two pounds of seed per acre is sufficient. Sown broadcast will require four pounds. Rutabagas should be sown this month, turnips may be sown in August. All who keep cattle, sheep and hogs should grow these root crops. They provide succulent feed to be fed to the stock in winter and will enable young cattle to be carried through winter in a constantly improving condition on fodder or straw. For sheep keepers they are almost indispensable if the best results are to be attained.

If you have not a silo on the farm now is the time to build one ready to hold the forage crops as they are cut. In our last issue an article on "Forage Crops for Fodder and Silage" showed how much more feeding value could be obtained out of corn fodder and sorghum by preserving these crops in the silo rather than as dry fodder. A silo is the cheapest barn a farmer can build, and enables him to save his crop in the cheapest and easiest way and irrespective of the weather. Here in the South the building of a silo is a simple matter, as no precautions are necessary to exclude frost. All that is needed is to make a tight receptacle for the crop. This may be either in the form of a big tank or tub, or it may be built like a frame building. Tub silos are in use on many farms in the South, and are a perfect success. We have given full descriptions of the method of building both the tub and frame silos several times in THE PLANTER. In our issue of July, 1903, will be found full instructions. The great point to be observed is to build with the greatest depth possible, so that the natural weight of the silage will compress the contents solidly and drive out and exclude the air. To arrive at the size of silo required estimate the consumption of silage at 40 pounds per head of cattle to be fed per day. Multiply this by the number of days required to be fed, and you have the quantity of pounds for which storage is required. A cubic foot of silage will weigh on the average 40 pounds, so that each animal will consume a cubic foot of the feed per day. The silo must be large enough to hold this quantity when settled, and to provide for the settling add one-fourth to the number of cubic feet of silage called for. A round silo is the most economical, as the settling is most perfect, there being no corners to hold the feed and let it spoil.

ESTIMATES FOR SILOS.

Estimated size of silo needed, and number of acres required for a given number of cows, for a feeding season of 180 days:

No. Cows.	Estimated Consumption of Silage. Tons	Size of Silo Needed. Diam. Ft.	Average Acres Corn Needed.
6	20	9x20	1 to 2
9	30	10x22	2 to 3
13	45	11x25	3 to 4
21	74	13x29	5 to 6
25	90	14x30	6 to 7

When corresponding with advertisers, kindly mention the SOUTHERN PLANTER.

ALFALFA.

For several years we have been pressing on the attention of Southern farmers the importance of alfalfa as a crop for production in the South. Until within the past two or three years our efforts seem to have been rewarded with but little success. As with alfalfa so with the grasses and clovers, it has been difficult to convince Southern planters that there was anything in these crops worthy of their attention. And yet if they will give heed to what has been the result of growing alfalfa in the West, they will realize that it has been worth more to the farmers of that section than all the wheat and corn raised there, for it has not only directly brought them money by enabling them to feed large herds of cattle, sheep and hogs to be sold at profitable prices, but it has enabled them to maintain and increase the fertility of their lands, and thus permit of the continued production of large crops of corn and wheat. It has also directly brought them thousands of dollars as a sale crop for the feeding of horses in the large cities. What it has done for the farmers of the West it is already also doing for many farmers in one of the Southern States. In Louisiana one of these farmers, Mr. Foster, who has 400 acres planted, says:

It seems to me that this queen of all hay and forage plants is too little understood, otherwise there would not be a ton of hay shipped into Louisiana. On the contrary, there would be thousands of tons shipped out of the State at a better profit than is made on cotton, even at present high prices. I am not chemist or botanist enough to say on what lands in the State it will grow profitably, but believe that with proper expenditure of time in preparation, manuring and nursing it can be made to grow anywhere in the State. I have seen it growing luxuriously on the poor and worn hill land of the Experiment Station in North Louisiana, but much time and expense was required. On the river lands between Baton Rouge and New Orleans it seems to thrive well, and on the Red river it seems to be perfectly at home. I may say that I use it as a profit crop on our low, stiff, red lands that will not produce profitably any other crop. Its value as a feed for horses, mules, cows and hogs is unequalled by any other food. Hogs will make splendid growth on it and fatten readily without any other feed, and that, too, with twenty or twenty-five to the acre, where it grows well. Again, it is a fine fertilizer crop. Your land is improving each year it grows on it, and when you wish to get rid of it (which will be never unless you want to plant it somewhere else), it is as easily killed as oats or corn. * * * I am free to say that if alfalfa hay is worth as many dollars per ton as cotton is worth cents per pounds, I would prefer to raise the alfalfa.

On our soils, with ordinary seasons for growing and harvesting, we get three to five cuttings, averaging from one-half to a ton of cured hay per cutting, and bringing in our market at Shreveport from \$8 to \$15 per ton. The cost of handling varies, of course, with the seasons. It costs just as much to cut and rake one-half ton per acre as it does to cut and rake a ton per acre. From my experience, and my alfalfa account, it costs an average of \$1.25 to \$2 per ton to put in shape for the market. An intelligent negro near our plantation, who works twenty mules raising cotton, told me he had sold \$500 worth of surplus hay per year off twenty acres. For the last two years off sixty acres he has sold enough to very nearly make his cotton crop clear. I think a very conservative estimate would be \$15 to \$30 per acre net per year, not counting the pasturage in fall, winter and spring. My advice to every one who works land would be to plant a small patch of alfalfa for trial. If he succeeded with it he would have the most valuable crop that grows; if he failed it would be the most laudable failure he ever made. In 1900 my overseer made with wage hands 253 bales of cotton, costing in money outlay \$4,500 and bringing on the market \$10,575. In 1901 the same man with the same labor, on poorer land, harvested 1,100 tons of alfalfa, selling in car load lots for \$15 per ton, or a total valuation of \$16,500, with a money outlay for labor and machinery repairs of \$1,500. In one case it required about 45 per cent. of the gross value of the cotton to get it ready for the market; in the other it required only 10 per cent. of the gross value of the alfalfa to put it on the market.

What this and other Louisiana farmers are doing some few of our farmers in this State and North and South Carolina are also doing. Alfalfa grows just as freely in the Eastern, Middle and Piedmont sections of these States as in Louisiana or the West when the proper means are taken to secure a stand. It will also grow in the mountain sections of the West of these States in the valleys, and where the elevation is not too great and too exposed, but in those sections should be seeded in spring and not in the fall, as is best in the Middle and Eastern sections. We import into this State thousands of tons of hay every year from the West, and this also is the case in the other South Atlantic States. Every ton of this hay can be grown at home, and of a much finer quality than that bought from the West, if only our farmers will sow alfalfa. There are, however, certain conditions which must be observed in growing the crop if success is to be achieved, and it is with the object of stating these that we write this article. Alfalfa thrives best in a warm, friable soil with a porous subsoil, into which its long tap roots can read-

ily penetrate. More than any other plant, it depends on a subterraneous supply of water rather than on a surface supply. To reach this the roots have been known to go down 20 or 30 feet. The land must be in a good state of fertility and free from weeds. Alfalfa will not grow in poor land nor will it fight successfully a battle with weeds. Although it makes a wonderful growth of feed every year after it is well established on the land, often producing four or five crops in the year of from one and one-half to two tons of hay to the acre at each cutting, yet it makes but a slender growth the first year, except on very rich land, and weeds easily overcome it at that time and smother it out. The land must be finely broken and well prepared, and should have a dressing of from 20 to 25 bushels of lime to the acre applied previous to seeding the crop, and this should be well worked into the soil. If the land is not in good fertility it should have a dressing of 400 or 500 pounds to the acre of bone meal or acid phosphate or have a good coating of well rotted farmyard manure free from weed seeds applied, and these be well worked into the soil. The next and most important condition is that the soil should be inoculated with the specific bacteria of the alfalfa plant. Without this there can be no certainty of a permanent stand. The seed may germinate and grow for a time, but until the soil is fully infected with the bacteria no success can be relied on. This specific bacteria can be got in several ways. It can be had from the Department of Agriculture at Washington, or, better still, can be supplied in larger quantity by the sprinkling of 100 pounds to the acre of soil from a field upon which alfalfa is already growing luxuriantly. There are a number of parties advertising this soil for sale, and if there be no alfalfa field in your section it will be advisable to secure the soil from them. If you reside in a section where the *Mellilotus Alba* (commonly called Sweet Clover) grows, and this is found more or less all over the South, soil from around where this plant is growing will infect the soil with the proper bacteria for the alfalfa, and Professor Kilgore, of the North Carolina Experiment Station, says that he finds that soil from a Bur clover field will also give the proper infection. In whichever way is most convenient to you, secure the bacteria and apply it to the field before sowing the alfalfa seed. Sow the alfalfa seed in August or the first half of September, at the rate of 20 to 25 pounds to the acre broadcast, harrow in lightly and roll if the land is dry, following the roller again with a weeder or light harrow to break the surface compact-

ness and make a soil mulch to conserve the moisture. A good place to experiment in growing alfalfa is a cow pea field with a heavy crop of peas on it, which have smothered down the weeds. Cut the peas for hay. Spread 25 bushels of lime per acre on the stubble, and then break shallow, not going over three inches deep, with a disc harrow or cultivator. This will not bring to the surface fresh weed seeds to smother the crop. Sow the alfalfa seed and roll and harrow as above directed. When the alfalfa has made a growth of six or eight inches run over it with the mowing machine, just clipping off about half the growth and leave the cutting for a mulch. This may be repeated again if the growth becomes sufficiently tall before the middle of October. This clipping causes the plant to tiller out and cover the ground more completely, and thus protects the roots during the winter. This clipping of the crop should be continued through the first summer's growth, though if a good and thick stand be obtained before the first winter the crop may be allowed to grow a foot or fifteen inches tall in the spring before cutting, and this and the later cuttings should be cured into hay and be removed from the field. After the first year cut the crop for hay every time it gets fifteen or eighteen inches high, just when coming into bloom, and take care to give it a good, heavy dressing of acid phosphate or bone meal, 400 or 500 pounds to the acre, each year in the fall or early spring. So treated the stand should last for ten or fifteen years at least, giving from five to ten tons of hay each year per acre. In this issue we publish communications from a number of our readers, giving their experience with this crop.

CRIMSON CLOVER.

Although Crimson clover (often called German clover and in some sections in this country and in Europe *Trifolium*) has been grown successfully here in some sections for many years, yet it is a crop that has not yet had half the attention given to it that it deserves. In all sections of this country land left bare at any season of the year is apt to lose much fertility by the washing out of plant food accumulated in the soil, and especially is this true of land in the warmer sections like the South. Whilst crops are growing on the land they appropriate and conserve this fertility, and in sections too cold for winter growth of crops the covering of the ground with snow and the freezing of the land serve to retain this unused plant food. In the South climatic conditions are

such that we can rarely expect to have the land either hard frozen or covered with snow for more than a very brief period, if at all, in any year. Science and sound policy therefore require that we shall avail ourselves of some crop to cover the soil during the winter season. In selecting the crop to be used for this purpose it is the part of wisdom to choose one, if such be available, that will not only conserve the plant food in the soil, but which will in its growth add to the fertility of the soil and make it better fitted for the production of the next crop. If in addition to this we can grow a crop which will give some winter and spring grazing and make a good early forage and hay crop we ought to do so. In the South we can do this with several crops which show themselves admirably adapted to our climatic conditions. Crimson clover, Hairy Vetch and English Vetch all meet the requirements specified, and amongst these Crimson clover perhaps more fully meets all the requirements than any other in that it makes better winter and spring grazing than the others and a better sod to turn under for the feeding of the following crops. Whilst it does not gather from the atmosphere and fix in the soil quite as large a quantity of nitrogen as the Hairy Vetch, it is more certain to make a growth on all our lands than the Vetch at the first sowing, as nearly all our land is already inoculated with the clover microbe, whilst much of it requires to be inoculated with the Vetch microbe before it will make the best yield of this crop. A good crop of Crimson clover will gather and store in its roots, stubble and forage about 150 pounds of nitrogen per acre, all or nearly all taken from the atmosphere. At a low valuation, this nitrogen is worth at least \$20 simply as a manure. This quantity of nitrogen is more than is called for by a 75 bushel to the acre crop of corn. As a preparation for the corn crop this crop is therefore of great value, as it enables the farmer to grow the crop without any outlay for nitrogenous fertilizers. In the same way it admirably prepares the land for an Irish potato crop, which almost invariably does well on a clover sod. The only drawback which affects the Crimson clover crop is that it is rather uncertain in making a stand. This arises from the fact that it is very quick of germination, and when first sprouted is easily killed by the hot sun. This difficulty may be largely obviated by seeding the clover in a growing crop, say of corn or cotton, which will shade it or by seeding with a mixture of wheat, oats and rye, which will serve the same purpose. In all cases we would advise the seeding of some small grain with Crimson clover, as this adds

to the value of the winter grazing, and to the weight of the hay crop and ensures a certainty of a crop on the ground if the winter should be so severe as to freeze out the clover, or it should happen to be killed in the late summer or early fall by the hot sun or a drouth. This month of July is the time to commence sowing Crimson clover and the work may be continued at intervals as the land becomes available until the end of September, or even the middle of October. If sown alone seed 15 pounds to the acre. If sown with small grain, sow 10 or 12 pounds of the clover seed with half or three-quarters of a bushel of wheat, winter oats and rye mixed in equal parts. Do not plow the land where it was deeply broken for the previous crop but break the surface with a disc harrow or cultivator, and cover with the cultivator or a harrow. If the land is dry roll after covering the seed.

CULTIVATION AS A FERTILIZER.

Editor Southern Planter:

The spring of 1903 I ploughed a field of five and one-half acres, intending to set the entire piece in tomatoes, but owing to the scarcity of plants I only put out four acres, leaving one and one-half acres, which grew up in crab grass. I marked off the whole piece, 4x4 feet, and applied a 2-8-2 fertilizer in the cross, at the rate of 400 pounds to the acre. After the tomatoes were sold I fallowed the whole five and one-half acres, after mowing and removing the crab grass from the one and one-half acres. I disced the whole piece three times and ran a smoothing board over it, and then sowed it in wheat, using 500 pounds of a 2-8-2 fertilizer per acre. There was no apparent difference in the fertility of the entire piece, and the same amount of fertilizer was applied all over. At this writing, June 10th, the wheat on the one and one-half acres will hardly be worth cutting, while the wheat on the four acres is up to the average. Now, what makes the difference in the wheat crop? Is it due to raising tomatoes as a helpful crop to the land, or crab grass as a robber of the soil, or did the thorough preparation and working of the land in tomatoes have anything to do with it?

Richmond Co., Va.

M. C. LEWIS.

As neither tomatoes nor crab grass are recuperative crops, but both, and especially the tomatoes, are crops which require and take from the soil considerable plant food, the only explanation of the difference in the condition of the wheat crop on the two plots must be referable to the working of the land. The difference forcibly illustrates the point we have so often made that one of the things our Southern lands

most need to make them profitable in production is better and deeper cultivation. "Tillage is manure," as old Jethro Tull so loudly proclaimed in the beginning of the era of modern farming. The constant stirring of the land during the working of the tomato crop aerated it and allowed the benign influence of the sun and the moisture of the atmosphere to permeate the soil and make available for the wheat the plant food existing therein in an inert condition. The plot in crab grass lacked this, and hence the plant food was and is still largely unavailable for the wheat. Numbers of experiments have been made in various sections which illustrate the value of cultivation in making available inert fertility. Prof. Hunnicutt once selected one acre in a 20 acre field, an average spot, and plowed and harrowed this acre fourteen times right along before quitting. He then planted and cultivated this acre just as he did the rest of the field, running the rows right along through it. The yield of the extra worked acre was much more than double any other acre in the field. This continued to be true with every crop grown on it for five years afterwards. All through the growing season this acre could be distinguished as far as you could see the field. In an experiment made in Georgia a piece of land that was planted in cabbages, which were got in in a hurry on a piece of land in bad physical condition ran together and became tough during the wet weather that followed. Fertilizer at the rate of a ton to the acre was applied, but the cabbages did not thrive, although frequently cultivated. The 15th of July saw the last of the cabbages cut, and the land was then deeply plowed with a two-horse plow. The weather was dry and the field turned up cloddy. Without allowing the clods to become dry the cutaway harrow was put in the field and the clods were worked down, following with the smoothing harrow and roller. The following week the field was cut up again, harrowed and rolled down as before. The next week the land was plowed again, after which it was again harrowed and rolled. The fourth week the cutaway harrow was put on it for the last time, and when finished the field was like an ash bank. Rows were laid off two feet apart and stable manure applied in the drill to all the rows, with the exception of ten rows, which had no manure or fertilizer. The field was then planted in snap beans. It was wonderful the way the beans grew. The weather was dry, but they did not suffer. They just outgrew anything on the place—producing over 200 bushels of snap beans per acre. The strangest part of the experiment, however, was that the ten rows which received

no manure could not be distinguished from the rest of the field, they produced equally as large a crop, showing that the plants had all the plant food they required. The cultivation of the land had made the inert plant food available to the extent required by the crop, and the manure applied to the rest of the field was thus proved to have been unneeded. On an adjoining field, which did not receive any extra tillage, the portion manured was three times as large as the part left unmanured, and produced three times as many beans per row as the part left unmanured. This clearly demonstrates that the factor dominating the production was the cultivation and not the manure. In an experiment made in New Hampshire certain corn plats were given no cultivation, other plats were cultivated five times, and other fourteen times. On the plats not cultivated the yield was 17 bushels to the acre, whilst the plats cultivated fourteen times yielded at the rate of 80 bushels to the acre. In New York State Irish potatoes have been grown five years in succession with no aid given but frequent cultivation of the land and the turning down of vegetable matter grown on the land in the fall and early spring, and have made a successful yield each year. We think the foregoing experiments will satisfy our correspondent that not the crop grown on the land, but the way in which the land was treated, causes the difference in the appearance and prospect of his wheat crop.—Ed.

ALFALFA IN THE SOUTH AND MIDDLE STATES.

In response to our request for reports on experiments in alfalfa growing in the South we have received the following:

Alfalfa in Dinwiddie County, Va.

Editor Southern Planter:

Responding to your request in the June issue, I would say that we have now about four acres in alfalfa, sowing about one acre each year. The first was sowed in 1900, in the spring. We cut it every time it was about ten inches high. It was very discouraging the first year, it looked yellow and spindling. When we sowed it we put 300 pounds of acid phosphate on the land; the next spring we applied 300 pounds of lime per acre, and in the winter top dressed and sprinkled with liquid manure, and still the next year it did not do much, but the following year we cut it every four or five weeks and had a heavy growth. This was in 1902. After this we got our courage up and sowed another plat in the

early fall (1902). From this we had the first cutting June 4th, this year. The third plot we sowed last fall in the same way, with phosphate, and limed it this spring. At this date it looks poor, but we anticipate for next year a fair return after cutting it, when it grows 10 or 12 inches. We intend to persevere on these lines until we find a better method.

Dinwiddie Co., Va.

J. H. WERRES.

Alfalfa in Lawrence County, Ky.

Editor Southern Planter:

There has never been any alfalfa sown in this section to amount to anything, except twelve acres that I sowed on April 12th last on a piece of medium sandy loam, a portion of it slightly rolling, but most level land. The ground was plowed last November; disced thoroughly on April 1st, harrowed with a straight tooth harrow on April 10th, and the seed sown on the 12th and rolled in lightly.

I send you a sample of a few of the best stalks, with roots attached; also a couple of stalks of red clover sown in a field beside the alfalfa, for comparison. The alfalfa will average 15 inches in height, and is growing at least one-half inch per day; the seed was treated with the United States Department of Agriculture's inoculating material, and 25 pounds of nitrate of soda per acre sown with the seed.

Why is August and September sowing preferable to April? I cannot imagine how any better growth than this can be obtained. Please give me some advice with reference to its treatment from this time on. When shall I mow it, if at all, this year?

JAY H. NORTHRUP.

The sample is a fine one for so recent a seeding. The crop should be cut at once, and the cutting be repeated two or three times during the summer. This repeated cutting causes the plants to tiller and cover the land with a thick sod. Fall seeding of all grasses and clover is advisable in the South except in mountain sections. A better root growth is secured.—Ed.

Alfalfa in Indiana.

Editor Southern Planter:

Thinking that perhaps your readers might be interested in raising alfalfa and pure blooded cattle, I have concluded to send you a short article, giving my experience with alfalfa and recorded Herefords.

About nine years ago I bought two recorded Hereford heifer calves; and my neighbors made fun of me for paying \$50 apiece for them. I now have about fifty head of recorded Herefords, and have sold calves to several in Michigan, Minnesota, Wisconsin,

Kentucky, North Dakota, etc., and the buyers have invariably written for more cattle. I have sold cattle here in my own county, too, and now we have ten Hereford breeders in Boone county alone. Good cattle eat no more than "scrubs," and they bring more per pound, and weigh more. I want to tell you how I keep the 50 head of cattle on 100 acres of land.

About eight years ago I sowed one and a half acres in alfalfa on ground on which wheat had winter killed. I sowed a little red clover also, thinking I could make hay of the red clover if the alfalfa failed. The alfalfa did very little good for two or three years, or until the little red clover was all gone. I did not inoculate the land for alfalfa, and it takes alfalfa two or three years to inoculate itself. If I had not sown the red clover I am satisfied I would have plowed the alfalfa up, like nine-tenths of the farmers do who do not inoculate it. As it was, by the time the red clover was gone the alfalfa began to do pretty well, and I let it stand. This old patch is fine now, and I have been cutting four crops of hay each year from it for several years. The first crop last year made about two tons of nice hay per acre. The year after sowing the first piece I sowed three acres in alfalfa and red clover on upturned blue grass sod that I had had harrowed thoroughly. This proved a great discovery for me. The blue grass came right up with the alfalfa, and I have fine blue grass and alfalfa both on the same ground at the same time. Alfalfa roots so deeply (ten feet or more), and blue grass feeds on the surface, so one does not bother the other. Both require to be cut early for hay—say, last of May or first of June, and both make good hay if cut before they ripen; and nothing that I have ever tried equals this mixture for pasture. I have this spring sowed eight acres more in alfalfa on fine blue grass sod, and the alfalfa is coming up now, although only sowed five days ago. Two years ago I sowed about 20 acres of alfalfa in corn just before the last cultivation, plowing it in shallow. I got a fine stand and cut a nice crop of hay in eleven months. Just about the time the second crop ought to have been ready to cut I noticed that the alfalfa was turning yellow, and that the leaves were spotted, and were falling badly. I thought I was going to loose my alfalfa; so I cut it again as soon as possible, although it was only about a foot high. As soon as I could get it in to shock I took several wagon loads of soil from my oldest alfalfa patch and scattered it here and there over this field. The result was wonderful. In a few days the alfalfa changed to a deep green color, and I got two

more cuttings of nice hay the first year. This proved to me that inoculation is necessary for prompt success with alfalfa. A friend of mine, at my suggestion, sowed about seven acres in alfalfa in corn in June in 1902, and he got as fine a stand as I ever saw. He cut it four times last year for hay, and was well pleased with it in every way, except that it turned yellow from some cause last fall. He did not inoculate it. This spring he has not more than half a stand, and his disced and resowed part of it. People made fun of me again for sowing alfalfa, and especially so when they saw me scattering a few handfuls of earth per square rod over the field. They said: "Alfalfa would do in the West, but that it was not adapted to this climate." When I began to ship soil to others to inoculate with they thought me stranger than ever. Last week one man came to us while we were packing soil in barrels for shipment and asked: "What are you doing?" I told him, and he said: "Aren't there lots of d— fools?" I said: "Yes, and plenty of them close around here." He said no more, but went off. I have shipped soil all over the Eastern and Central States, to New York, Virginia, Kentucky, Ohio, Maryland, etc. I shipped last summer one ton to one man in Pennsylvania. This spring one ton to Michigan to one man, and one ton to a man at Liberty, Ind. I mean to sow ten or twelve acres more of alfalfa each year on blue grass sod until I get my whole farm into alfalfa and blue grass mixed. I now have 58 acres of alfalfa. I don't need much grain to keep pure bred Herefords in good condition. I buy a little grain to feed to the cows in February and March. Of course I feed young, growing calves a little grain all the time, but I can sell a calf occasionally for \$100 and buy corn or oats from my neighbors, who think they must raise corn and pasture their stock on the public highway. Raise a patch of alfalfa and blue grass for your hogs. Set some locust trees out in it for shade and posts, they will not hurt the pasture.

Boone Co., Ind.

J. N. SHIRLEY.

CAN ALFALFA BE MADE INTO GOOD SILAGE?

Editor Southern Planter:

If alfalfa could be utilized in the form of silage it would be another way of using one of the most valuable of farm crops. As a soiling crop it is pronounced of the best, all animals are exceedingly fond of it, and will get fat on it without the assistance of grain, but few are ready or care to adopt the soiling system. Alfalfa makes first class hay. Haymaking is precarious, much often gets spoiled in the making,

and alfalfa spoils quickly, and as the crop is cut some four or five times during the season of its growth it would be a constant anxiety all the summer. Now, if it could be cut and carried whilst green and deposited in a silo all trouble from rain would be eliminated and the expense would be no more than making it into hay. The green alfalfa can be stored in much less space than it could be in the form of hay, probably it would be well to allow a wilting to take place before ensiling. The silage could be used at once, or it could be kept till wanted. I believe the most economical way to secure the crop would be to ensilo it even for use in summer. Can it be made into palatable and good silage? Any one who has had experience would confer a favor by giving his knowledge to the public, and Mr. Editor, your views would be highly appreciated. On many soils there is found difficulty in getting alfalfa to grow well. Not that the land is not good enough, but because sufficient attention is not given to the preparation of the land before seeding, and because the bacteria necessary to its production is not present, but this trouble can now be overcome by inoculating the soil with dirt from lands which have grown alfalfa, and in which the nodules on the roots caused by the bacteria are plentiful, or on application to the Secretary of Agriculture the bacteria in concentrated form will be furnished at slight expense, with full instructions for its use. It would be foolish to try to establish alfalfa without taking all known means to get a good stand for remember the sowing is not for a short crop like clover, but one that may be expected to remain good for many years, particularly if liberal dressings of phosphate and potash are applied yearly, and with a crop of this character one can afford to be generous with mineral fertilizers. The feeding value of alfalfa silage would be much higher than that made from corn, the bulk would be, from the four cuttings, about the same, and as there would be no annual plowing, seeding, or cultivation, it should be grown at less expense than corn silage, and I see no reason why it should not be deposited in the silo as it comes from the field without cutting or shredding. In taking it from the silo if a hay knife is used to slit it across, say every foot to the depth of daily consumption, it could be as easily removed as corn silage that had been through a silage cutter. Land after being several years in alfalfa properly fertilized and managed would be greatly increased in productiveness, capable of growing heavy crops of wheat or other cereals, and would be ready for alfalfa again in a short time. Some one may ask the question, Can alfalfa be used as silage, fed, say, into beef or milk, as profitably as when sold as hay at \$12 per ton at the farm? Taking into consideration the loss attached to haymaking, I think it could. The manure value of alfalfa is high, \$1.80 per ton for green and \$7.50 as hay.

As silage it must be consumed on the farm, when sold as hay the farm is robbed of fertility. Every acre of alfalfa consumed should furnish sufficient nitrogen for another acre or more every year. A field of alfalfa may be justly described as a trap to catch nitrogen from the air, not only for its own use, but for the benefit of other crops not having the power to acquire that important plant food from the atmosphere, and to do its best in this line it must be liberally supplied with phosphates and potash, and probably lime on some soils.

FOSTER CLARKE.

Mercer Co., W. Va.

Whilst we have no personal knowledge of the making of alfalfa silage, nor can we find any records of experiments made with it, yet we see no reason why it should not be made into good silage. Both Red and Crimson clover are made into silage, and whilst this silage is not always of the best quality, this arises not from the nature of the crops so much as from want of experience in siloing them at the proper time and in the proper condition of growth. When mixed with corn they make good silage. If this be so, then alfalfa can surely be made into good silage when the proper conditions are understood and observed. Experience is only needed.—ED.

ALFALFA GROWING IN HANOVER COUNTY, VA.

Editor Southern Planter:

Complying with your request for a contribution upon the subject of alfalfa. I sowed three acres in October, 1903. It came up beautifully, but did not grow large enough to withstand the freezing and thawing. To add to the troubles, water stood for a long time upon the lower part of the field. The higher part is a red clay hillside, part of the lower land is sandy, part is loam. The land had been plowed late in August and had been disked several times. So-called blood and bone fertilizer had been spread at the rate of 400 pounds to the acre for turnips. The turnip seed was bad, and did not come up. The land was disked twice in October and sowed to alfalfa at the rate of 30 pounds to the acre. The land had never been limed. It really needs lime.

Although most of the tender plants were killed, enough survived to give a fair stand on the higher parts of the field. I pulled out roots over 20 inches long, but could not get complete roots because they would always break off. The field was mowed once to cut down the weeds. The alfalfa is again about 18 inches high, but in danger of being destroyed by the weeds. There are no nodules on the roots, al-

though I tried to infect the land by spreading a lot of soil from another alfalfa field.

These are the lessons this field has taught me. October is too late for sowing. Shall sow September 1st.

Land on which water will stand is not suited to alfalfa. Clay soil seems to be as well (if not better) suited to alfalfa in this section as sandy land. As there are no old alfalfa fields near, I shall get bacteria from the Department of Agriculture. Soil from new fields will not do.

I have near ten acres in peas on a field that will be seeded to alfalfa September 1st this year. Shall use a ton of lime and a ton of phosphate "floats" per acre, and probably some potassium. The lime will cost me about \$2 per ton and the freight, the floats probably \$10 per ton delivered. Floats are untreated phosphate rock, containing $27\frac{1}{2}$ per cent phosphoric acid, or 12 per cent. pure phosphorus. A ton of floats contains 240 pounds of phosphorus, or as much as two tons of 14 per cent. phosphate fertilizer. The floats dissolve slowly, and are well suited for a field that is to remain permanently in alfalfa.

As our Commissioner of Agriculture and our Agricultural College and Experiment Station furnish little or no information upon the subject of alfalfa we must look to other States for light. The report of the State Board of Agriculture of Kansas for the year 1894 is exclusively devoted to alfalfa, and may be had free by writing to Topeka, Kan. I have seen alfalfa at the Nebraska Experiment Station at Lincoln yielding nearly nine tons of hay without irrigation, and I passed irrigated fields near Greeley, Colo., that are said to yield eleven tons. Western methods, however, are not suited for Virginia. Here weeds are more troublesome, and our lands are in need of fertilizer. I am told that a patch of alfalfa at the North Carolina Experiment Station is yielding eight tons and more alfalfa every year in spite of the fact that the field has not been properly limed as it should have been. Alfalfa fields in the South must be disked every spring and after every mowing after the second year. For further information I beg to refer readers to my article in the February (1904) issue of the SOUTHERN PLANTER.

Hanover Co., Va.

N.

CRIMSON CLOVER.

Editor Southern Planter:

I saw in the March issue of the SOUTHERN PLANTER, page 172, an account of the non-success of Crimson clover. I have been there myself. I then tried

sowing Japanese buckwheat with the Crimson clover, and had splendid results. The buckwheat grows very rapidly, and its thin, broad leaves make a fine shade for the clover from the scorching sun of September and October. When frosts come the buckwheat dies down and make an excellent mulch for the winter.

Incidentally buckwheat is fine "bee food," and if planted early enough for the seed to mature somewhat chickens will greedily eat it, and thereby vastly improve the flavor of their flesh.

Henrico Co., Va.

R. POWELL DUNN.

CRIMSON CLOVER.

Editor Southern Planter:

I note from your March issue that one of your subscribers living in Tennessee asks for some advice as to best time to sow Crimson clover. He states in his communication that he has sown Crimson clover in October and November and succeeded in getting a good stand but it always disappeared from some unknown cause. The main cause of his failure has been that he failed to seed at the proper time. I have raised Crimson clover for a number of years and very successfully but never from sowing as late as October 15th. Another reason no doubt for said failure existed in the manner in which the seed was put in. I have never failed to get a good stand when sown on good loose fresh plowed land when I put it in at the proper depth. It should always be plowed in with a light cultivator and the very best result that I have ever had was when I sowed the seed in my corn fields at the last working of the corn and put it in with an ordinary cultivator. This is most always from the middle to the last of July. Even though the fall turns out to be very dry you are almost certain of a good stand and a luxurious growth. The corn shades the young plants and protects them from the hot sun. This gives the clover a good chance to become thoroughly rooted and set to the ground before freezing weather sets in. Crimson clover is easier killed by the hot sun and by freezing in its early stage than any of the clovers, but when seeded at the right time and in the proper manner it is the very greatest soil improver that the Southern farmer can use to-day. The following incident proved this most satisfactorily to my mind: A few years ago I bought a piece of red clay land that was poor. I broke it in April and worked constantly on it for three weeks with disc harrow, roller and spike tooth harrow trying to get it in shape for corn, there being just four and one-half acres in the piece. I

finally got it in good order and planted my corn May 22d. We had a good season, and on July 27th we plowed it the last time, at which time I sowed 25 pounds of crimson clover to the acre and got a splendid stand. At cribbing time I measured my corn and found that I had just 144 bushels of soft, spongy corn on the ear. The next season, May 21st, I plowed this clover under just as it was in full bloom, and it would average waist high. I planted my corn June 2d, and had not as good a crop season as the year previous, but when I measured my corn in the fall I found that I had made instead of 32 bushels to the acre, 56 bushels to the acre, or almost double the amount of the previous season on the same land, and this under more adverse circumstances. I have done the same thing quite a number of times since, and I have never failed to increase the yield from 50 to 75 per cent. I don't believe that there is a single observant farmer in the South to-day who after giving Crimson clover a thorough and honest trial will ever be willing to discard it. I have also followed Crimson clover with all the small grains, and always with the same results. Some future time I may take this matter up again and give you my experience further with it. T. M. ARRASMITH.

Guilford Co., N. C.

We shall be glad to hear further from our correspondent on this subject, as it is one of present importance to all farmers. The time for seeding is just commencing, and we should like to see the crop much more largely grown, as we know it to be of the highest value.—Ed.

LIME AND FERTILIZERS AS IMPROVERS OF LAND.

Editor Southern Planter:

If Mr. Hull will visit the sections of Pennsylvania where lime was formerly used to the extent that he claims he will find that the farmers discovered years ago that they had been liming too much. Thirty years ago in one of the best farmed sections of Maryland, Kent county, in late winter and spring the river banks were lined with lime boats bringing the lime from the Schuykill and Susquehanna, and many farmers were like Mr. Hull, very enthusiastic on the subject of liming. But to-day he will find in that section but a small part of the lime used that was applied formerly, for the farmers have learned what lime does, and many of them had over-limed their lands and suffered for it. One of the oldest and best farmers in that section wrote me not long

ago that for twenty years he has used no fertilizer but acid phosphate, that has cost him an average of \$9.50 per ton, for the wheat crop, and from the average of thirty years ago of ten to fifteen bushels of wheat per acre he has averaged for many years forty bushels, and has used lime very lightly, and for years none at all. Mr. Hull says that sandy soils are rich in potash, while the fact is that as a rule sandy soils are the most deficient in this mineral element. Clay soils usually have much more potash than sandy ones. There are few of our old cultivated soils that are rich in phosphorus. In fact, the great deficiency in most of these soils is of phosphorus. Lime will never make phosphoric acid available, but it will, on the other hand tend to make it more unavailable by reverting it to the monobasic form. Lime is certainly valuable judiciously used in a good rotation, but the man who imagines that he can make poor land rich by liming will soon find that the lime has enabled him to still further reduce its fertility. Now, as to the sulphuric acid destroying humus, I know that Mr. Hull is in error. Near where I live is a large fertilizer factory. A few years ago their immense acid chamber was destroyed by fire, and tons on tons of pure commercial sulphuric acid flowed out over the bottom land on which the factory is situated. To-day that acid-soaked soil is just as rich in humus as ever and far more fertile than before its bath of acid. Any free sulphuric acid that may be in an acid-phosphate will at once seek some base in the soil and become a neutral salt of whatever base is present, either forming sulphate of lime or potash, as may happen. The acid cannot remain in the soil as an acid. There are no cultivable soils so deficient in these bases that free acid can remain in them. Your correspondent "N." says: "If 'Virginian' should ever use acid phosphate or potash on any crop he would destroy every bit of vegetation. He probably means use phosphorus and potassium, which are very different articles." They certainly are different. But will "N." please tell us how he would use phosphorus as a fertilizer, since it burns up at once when it comes in contact with the air, and how he would use potassium, which is a metal and altogether unavailable as plant food till oxidized to what we call potash. Acid phosphate is simply a superphosphate of lime, made by dissolving the lime phosphate that exists in rocks, so that its phosphoric acid can become available to plants. Potash is the oxide of potassium which is found in various combinations in potash salts and ashes, and if "N." says the application of acid

phosphate and potash will destroy vegetation it is a little singular that the thousands of tons of these materials that are used annually have not had this effect, but have aided in the making of crops. We cannot use the pure elements as fertilizers, but must always take them in some combination. Hence I meant just what I wrote, and did *not* mean phosphorus or potassium, though these are what we are after in using the combinations that enable us to use them. "N." says: "It is no use to try to improve a farm by poor crops of peas. . . . It is better to sow fewer acres and fertilize these heavier." What will he fertilize them with if acid phosphate and potash will kill them? We have never advocated the keeping of more stock than can be well fed and fed at a profit. But no matter how poor the land, the farmer should keep stock enough to use up all the roughage that can be made before turning it into manure. Then as to pea vine hay. If there is any hay more easily cured I have not yet found it, after thirty years or more of experience. The man who keeps just what stock his land will feed will soon be keeping more. It is all very pretty in theory to get land rich with fertilizers and green manuring, but the man who fully realizes that feeding stock lies at the very foundation of profitable agriculture everywhere will find that his farm is gaining faster than the one whose owner is afraid of the trouble of feeding stock. I am fully in sympathy with a judicious and liberal use of commercial fertilizers, and am not afraid that acid phosphate and potash will burn up my peas, for I know that they have always made them grow rapidly, but at the same time I know from a long experience in the cultivation of the soil that it is wasteful to use as manure only, crops that have a high feeding value the larger part of whose manurial value can be recovered in the droppings. If a man is so situated that he cannot make any profit in feeding stock in some way, he would be the only man to depend on fertilizers alone, and even he would have to be quite rich if he could afford to spend \$100 an acre to make a farm on what is merely a place for one. There is not the slightest doubt that thousands on thousands of acres of Virginia land can be brought up to the production of even greater crops than "N." mentions, and more than this, they can be made to pay for the bringing up, and do not need a fortune to be spent on them before paying a profit. But to teach men that the Virginia lands are only "places for farms," and that a man must spend \$100 per acre on them before realizing any profit is certainly a great mistake. I know of no land in Virginia which

was originally productive and has a good clay subsoil that cannot be brought to a high state of productiveness and made to pay for its improvement as it increases in fertility. Such lands are not worn out, but have gotten unproductive through bad treatment, and will quickly respond to proper tillage and rotation, and the feeding of live stock. This is not theory, for I have done it in more than one part of Virginia.

As our friend Hull gives his name, and I do not want to shoot from ambush, I give mine.

(VIRGINIAN), W. F. MASSEY,

Editor of Practical Farmer.

Our correspondent's remarks as to the inadvisability of using lime in connection with phosphatic fertilizers were no doubt made in response to our own remarks in a recent article as to the power of lime to render available potash and phosphoric acid in the soil. We, of course, were aware when making this statement that it had long been claimed that there was danger of reverting the phosphoric acid in an acid phosphate by the use of lime at the same time as the phosphate. We, however, doubt this. Experiments made at the Rhode Island Station from 1894 to 1899 go to prove that the two may be used together not only with safety, but with advantage. All the plots on which lime was used along with different forms of phosphatic fertilizers gave better results than those on which the phosphatic fertilizers alone were used. We would not, however, advise the application of the two at the same time. Apply the lime in the fall and the phosphate in the spring.—Ed.

CURING CLOVER HAY.

Editor Southern Planter:

I have always advocated, as you know, the storing of clover and other legume hay before the leaves get crisp. But I agree with you that clover cut in the morning and stored that afternoon will be more likely to make silage than hay. The curing should be largely in the winrows, however, and no heating should be allowed while there. When wilted so that no sap can be wrung to a twist the curing can be well completed in the barn.

W. F. MASSEY,

Editor of Practical Farmer.

Skippers in Hams.

Do you know of any way to get rid of skippers when they have once gotten into the hams?

J. N. FARIS.

No. We believe it to be impossible to get rid of them with certainty. They cannot be reached. This is a case where prevention is the only course.—Ed.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Silo Building.

Some years ago I dug a silo, but it was too wide and too deep for the number of cattle I had, consequently I lost much feed. I could not feed it as fast as it moulded. Being in stiff clay, water also ran in, and I had to give it up. Now, I want to build one above ground, and would be very glad if you would give dimensions and directions for building one to furnish feed for six cattle for about six months.

A. B. C.

King William Co., Va.

In our article on Work for the Month in this issue will be found information on this subject.—Ed. —

Effects of Warm Weather.

I notice that during the past spell of warm weather my horses and most all of the neighbors' horses stopped sweating, and in consequence they panted like oxen. Please give the cause and remedy in your next issue.

M. C. LEWIS.

We are unable to explain this.—Ed.

Richmond Co., Va.

Preparation for Irish Potatoes and Tomatoes.

1. Which would be best to sow in corn land for Irish potatoes next spring, cow peas or rye? What is best time to plow down?

2. We have about two and one-half acres of land, which stood under timothy sod for about eleven years. We broke it in February, broadcasted it with barnyard manure and used a fertilizer, 3-8-4, about 700 pounds to the acre. This land is planted in sweet potatoes. If we harvest the potatoes and sow the land in rye, can we grow a successful crop of Irish potatoes and peanuts? Irish potatoes to be planted the last of March in rows three and one-half or four feet apart. Peanuts to be planted between the potato rows in June, and potatoes taken out the first of July, the land to be well fertilized for each crop.

Accomac Co., Va.

G. L. MOORE, JR.

1. We would sow cow peas now and plow these down in October, and then sow rye to conserve the fertility which the cow peas will have gathered.

2. Yes. We think so.—Ed.

Destroying Horns on Calves.

In the June issue of the SOUTHERN PLANTER, in reply to the question by B. S. H., regarding destroying horns by caustic, we notice Ed. says, apply two or three times. We have had much of this work done

while on a stock farm in the West, and one application is all-sufficient if properly done. Rub the caustic on until skin over the horn is thoroughly red, then stop, always using care to wet a spot no larger than the button of the horn, as caustic will burn wherever applied. We think that two or three applications would not only destroy horns, but injure the calf as well, as one application often makes the calf quite sick.

W. W. STOCKWELL.

Halifax Co., Va.

We have known the application made two or three times without injury, but are glad to have the advice as to care in using the remedy, given by our correspondent.—Ed.

Rotation of Crops.

I have been much interested in your recent editorials regarding crop rotation, and especially the suggestions given in April number in answer to a correspondent. I had planned, and am carrying out, a different series of rotations, chiefly because of lack of other land for wheat crops, and would be very glad to have your criticisms.

My plan has been to sow cow peas the first year, with 100 pounds of acid phosphate per acre, to be turned under in September after peas were picked, and land sowed in crimson clover, which was pastured in winter and early spring, and turned under in April of second year for corn, on which I used 200 pounds of 2-8-2 fertilizer per acre. I then sowed peas and crimson clover in the corn, and the following year pastured it until June of third year, when it was turned under and land kept in good preparation for wheat and oats, to be sowed in September, with 200 pounds each of acid phosphate and kainit per acre, sowing mixed grasses on the grain in spring of fourth year, following again in fall of fifth year, sowing crimson clover, turning that under for corn sixth year with 2-8-2 fertilizer. I fear that my plan is less thorough than yours, and the "drawing" crops of corn and wheat are closer together, and I have made no provision for liming the land. I would like to ask the following queries:

1. In my scheme, should I put lime on peas which I turn under the first year, and where that has been neglected, can I safely put lime on in June of third year, just before sowing wheat and oats, or has that plan any disadvantages?

2. Instead of sowing grass on the grain crops in spring, would you advise fallowing the land after harvest and sowing grasses that fall, leaving the land in grass for two full years?

3. Is there any disadvantage in growing wheat and oats side by side in same field?

4. Is the pasturing of cultivated fields objectionable, and is the tramping of soil a greater injury

than the droppings from cattle are beneficial?

5. Does agricultural lime contain any potash?

6. If you prefer muriate of potash to kainit, should it be mixed with the acid phosphate, or how shall I apply it to the land?

7. In sowing both peas and crimson clover in corn, I have found no means of covering the clover, which I sowed by hand, in showery weather, with fair success. Is there a better method?

8. Will nitrate of soda or muriate of potash deteriorate by being kept over, or should I buy only such quantity as I need at one time—I have never used either of these.

9. I have two lots, near stable yard, which I have used constantly for sorghum, followed by Crimson clover and peas, followed by Crimson clover—cutting all of these crops. If I fertilize the sorghum and the peas each spring, can I keep up the fertility of these lots? I do not fallow these lots for the clover crops, but simply drag each way over peas or sorghum stubble with straight tooth harrow and get good stands. Is this practice to be condemned?

10. Are disc plows, disc cultivators and disc harrows desirable for use on land where there is a sprinkling of rocks—some being as large as my head—or should I defer buying these tools until I can plow up and haul off all the rocks?

Amelia Co., Va.

SUBSCRIBER.

The rotation you are practicing is one that will no doubt result in constant improvement of your land, and should give you good crops. I think, however, it might be improved, and the answers we give to your first and second questions indicate the direction in which we think the improvement should be made.

1. We think liming is very essential to the permanent improvement of all land in the South, and would therefore lime your land once in each rotation, applying from 25 to 50 bushels to the acre. The lime would be best applied on the pea fallow to precede the clover, but if not then applied can with safety be put on after plowing the clover down for the wheat crop, and be then worked into the land whilst preparing it for that crop.

2. We have always strongly advised the seeding of grass alone instead of on a grain crop. You are much more certain to get a stand, and will secure a good crop usually the first year, which will be more valuable than the grain. We would certainly keep the land in grass two full years. It will, we feel sure, pay you to do so, and will result in giving you a good sod to turn under, which will greatly benefit the land by adding humus to the soil.

3. No.

4. This depends much on the character of the land. On light land pasturing is beneficial, as it tends to consolidate it and thus enables the crops to get better hold. Heavy clay lands, on the other hand, are often seriously injured by pasturing, especially if stock are allowed on whenever the land is wet.

5. We believe that some of the agricultural lime offered on the market claims to have potash in its composition. We would prefer to buy each separately.

6. We prefer muriate of potash to kainit for all crops except cotton. In the muriate you get a much higher percentage of potash usually at a less price per unit, and you get less useless material than in the kainit. Kainit, however, is valuable in preventing rust on cotton.

7. We do not know any better method than the one you adopt unless you sow the peas and clover early enough to permit of their being worked in at the last working. In this issue you will find articles dealing with this question.

8. Not if kept in a dry place.

9. Yes, we think you will maintain the fertility of the two plots in the method you adopt. We presume you apply stable manure to keep up the humus in the land.

10. Disc plows, cultivators and harrows do not work well amongst large rocks, but if these are not very numerous we think you would not find the tools difficult to work and they certainly make excellent work wherever they can be used.—Ed.

Nitrate of Soda on Clover.

1. Will it pay to use nitrate of soda on Crimson and Western clover? When can it be used on clover sown in August?

2. How much to the acre, and the price of it?

3. Can it be sown by hand?

4. Where can I get the nitrate of soda?

Middlesex Co., Va.

GEO. H. HALL.

1. The clovers being all leguminous plants, and therefore able to get their own nitrogen from the atmosphere, it is not usually profitable to apply nitrogenous fertilizers to them. It does, however, sometimes pay to do so when the crop is weak in growth arising either from absence of the specific clover microbe in the soil or from damage by severe weather. In such a case nitrate of soda would be a proper fertilizer to use for the purpose. It should be applied when the plant is just starting growth in the spring. If applied in the fall it would have the

effect of inducing a tender growth, which would be likely to suffer in the winter.

2. From 75 to 100 pounds to the acre would be sufficient. It usually cost from \$45 to \$48 per ton.

3. Yes.

4. From Wm. S. Myers, 12 John street, New York city, who is the representative in this country of the nitrate of soda people.—Ed.

Sorrel—Sheep Pasture—Pump—Windmill—Sheep Killed by Dogs.

1. What is condition of soil where sorrel grows? What is the best way to get rid of it?

2. Would wheat sowed in September be as good as rye, or would something else be better than either for sheep pasture next spring? Would it do to sow crimson clover with it?

3. What would be the best pump to put in a well about thirty feet deep? How would a windmill do? About what would a good one cost? Some say there is not wind enough in this part of the country to run one satisfactorily (Southwest Virginia, near the Tennessee line).

4. If dogs kill a man's sheep in the State of Virginia, will the State pay for the sheep?

Washington Co., Va.

A SUBSCRIBER.

1. The growth of sorrel is usually an indication of poverty of soil. The best way to get rid of it is to encourage the growth of better herbage by making the soil rich. This will soon crowd out the sorrel.

2. The best pasture for sheep for winter and spring is made by sowing in August or September a mixture of wheat, oats and rye in equal parts with crimson clover added. Sow 10 pounds of crimson clover with three-quarters of a bushel of the mixed grain per acre. A couple of pounds of Dwarf Essex rape seed per acre may also be added with advantage to the mixture.

3. Write the Sydnor Pump and Well Co., of this city, whose ad. you will find in the *PLANTER*. They are practical experts in pump and well machinery, with large experience of the conditions affecting different sections of the State.

4. No, the State does not pay for sheep killed by dogs. In some counties having special dog laws the county pays.—Ed.

Goats.

Will you please tell me the kind of fence required to keep common goats in? Will a plank or rail fence do? If so, about what height? Will a shed do to keep them in? What is the best thing to feed them on? How old a child can ride them? Where is the

cheapest and best place to get them, and what is the price of both sexes, and also of kids?

SUBSCRIBER'S DAUGHTER.

A plank fence 4 feet 6 inches in height will keep goats in bounds but a rail fence is not to be relied on, as they climb so readily. They require very little shelter from the weather. A shed will be ample. They will eat forage of any kind, but prefer to browse on shrubs and undergrowth. We see very small children riding and driving goats here in the city. Much depends on the way the goats are treated from birth. We do not know of any place to buy goats, but an advertisement in the *PLANTER* would find them.—ED.

Angora Goats.

Do you think Angora goat raising would pay if run with sheep on a large mountain range where there is a plenty of undergrowth. Give prices of Mohair or wool. Any information about goat raising will be very much appreciated.

Amherst Co., Va.

W. W. MASSIE.

We are of opinion that Angora goats would do well on such a range as you describe. We have published a number of articles on these goats, and have several others which we expect to publish shortly. Western breeders of the goats are well satisfied with them, and we know of no reason why they should not be a success in the South. There are already a number of farms in the State where they are being tried, and from one or two of these we hear satisfactory reports. The Mohair sells all the way from 10 cents to \$1 per pound, according to length and fineness of quality of the staple and freedom from short under fleece. Mr. Mann S. Valentine, of Rockcastle, Va., who has some fine animals which he has advertised in our columns, could probably give you valuable information about the animals.—ED.

Lime.

I want to use some lime on my land this fall. Please tell me the best kind to use and where I can best get it in car lots. Cumberland is on a narrow guage railroad, and the lime will have to be transferred at Mosley's Junction or Farmville.

F. P. FLIPPEN.

Cumberland Co., Va.

Use the rock lime. We should suppose that you could get this to cost least at your depot, from some of the lime kilns above Lynchburg, say at Eagle Rock. We hear that a Mr. Mason, of Ripplemead, on the Norfolk and Western railroad, is delivering lime for agricultural purposes at Burkeville at a very reasonable price. Perhaps he might be able to

deliver at your depot. Write Mr. Sandy, his agent at Burkeville.—ED.

Corn for Horses.

Which is the best way to feed corn to horses this time of the year? Feed dry corn on cob? Soak corn on cob? or crush and grind corn and cob?

Rockingham Co., Va.

W. M. H.

We think the best way to feed corn at all times is to grind it and mix it with bran and cut hay or fodder. In this way they get the full value of all the corn, and the bran supplies the protein the corn lacks. Corn and cob meal has given good results in horse feeding experiments, and with a little bran added makes an excellent ration.—ED.

Whitewash.

Please publish in the next issue of the *PLANTER* the receipt for making government whitewash.

Botetourt Co., Va.

SUBSCRIBER.

Slack half a bushel of good, fresh lime in boiling water, keeping it covered during the process. Strain it and add a peck of salt dissolved in water, three pounds of ground rice boiled to a thin paste, half a pound of powdered Spanish whiting and a pound of clear glue dissolved in warm water. Mix these well together and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace and put on as hot as possible.—ED.

Plant for Name.

Will you please give the botanical, as well as the English, name of the enclosed shrub or plant. Will you state if it has any medicinal properties; and if so, what they are?

M. C. LEWIS.

Richmond Co., Va.

The plant is Scotch Broom (*Cytisus Scoparius*). It has no economic value, but is often planted as an ornamental plant. It was introduced from Europe about a century ago.—ED.

Fleas in Hay Barn.

In our hog barn fleas are very numerous; will you please give me some remedy for exterminating them through your next issue?

E. L. HALE,

Halifax Co., Va.

Manager L. F. C. Farm.

Clean the place out thoroughly and brush down the walls. Then give the whole building, inside and out, a coating of lime wash, in which mix a pint of kerosene to each bucketful of the wash. Dust the floors with tobacco dust and trash. Persian insect powder (Pyrethrum) is also very obnoxious to fleas, but it is rather a costly remedy to use in a hog barn.—ED.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

Successional crops of corn, pole beans, lima beans and navy beans should be planted every week or ten days to keep up the supply until frost cuts them off. Sweet potatoes may yet be set out and cuttings from the plants set earlier should be taken off and be planted. Cut off the ends of the vines with three or four leaves on and insert them in the soil nearly up to the top leaves, and they will soon take root if the ground be moist. These cuttings will make potatoes for seed that will be better than those from the earlier planted draws.

Keep the cultivators running in the crops that are growing to encourage growth and keep down weeds. As land is cleared of crops, if not wanted for successional crops, seed with Crimson clover and cover with the cultivator. This will help to keep up the fertility of the land and make a good fallow to plow down.

The late crop of Irish potatoes should be planted. The sets used should have been kept in cold storage to prevent sprouting. These sets should be sprouted slightly by being spread out on a moist, shady piece of ground for a few days before being set. Potatoes grown from these sets will mature just before frost, and will keep well during the winter. Do not be sparing in the use of fertilizer. Use a complete fertilizer having a high percentage of potash. Such a fertilizer may be made up of 300 pounds of nitrate of soda, 600 pounds of fish scrap, 800 pounds of acid phosphate, and 300 pounds of muriate of potash. Use from 500 to 1,000 pounds per acre.

In the Eastern sections of Virginia and North and South Carolina the second crop of Irish potatoes should be planted. This crop is grown from seed raised this spring. The sets should be the medium sized potatoes sorted out when digging the crop, and should be planted whole. These sets should be spread out in a moist, shady place and have a little fine, moist soil spread amongst them, not sufficient to cover them, but just sufficient to pack around them. They will green and commence to put out sprouts. When fairly sprouted they should be set. Open the furrows deep. Apply the fertilizer in the bottom of the furrows and mix with the soil. Then drop the

sets and just barely cover them with soil. As they grow work the soil into the furrows and bring to a level surface as the plants grow. Keep level and cultivate frequently. This crop makes the best sets for spring planting, and there is a heavy and constant demand for them. The crop should mature just before frost.

Celery plants should be drawn from the seed bed and be set out on a bed in a moist, shady situation to grow on for a month before being set out where they are finally to grow and make a crop. If the plants are at all drawn or spindling, clip the tops back, and repeat this if necessary in order to keep the plants stocky.

Seed may be sown for late cabbage and broccoli plants to set out in September. Dust the beds and young plants with tobacco dust to keep off bugs and worms.

Seed may be sown for crops of fall turnips, radishes and lettuce.

A NEW STRAWBERRY.

Mr. M. T. Thompson, of Rio Vista, Va., sends us a sample of his new strawberry, "Thompson's No. 2." This, he claims, to be one of the finest of the many new varieties which he has produced. It is certainly a good berry, large in size, fine in color, and very firm and will make a good shipper. We are inclined to think that it is not so fine in flavor as his "Mark Hanna" berry, but this season was against it, as it was so dry just at the time it was maturing.

FRUIT PROSPECTS IN VIRGINIA.

Editor Southern Planter:

In the Piedmont section of Albemarle county the prospect for peaches is a very heavy crop, in many places a record breaker. The same may be said for plums. Apples are a very light crop. Pears scattering, and cherries vary very much, some places have none, others higher up are full. Off the mountains generally there is but little fruit. Damsons are also among the heavy crops this year. Strawberries are just over and have been a great disappointment, having first been considerably injured by frost, and later by dry weather. Prices were good

for what was shipped (about one-fourth of normal crop only).

WALTER WHATELY,

Chairman Committee on Transportation, Virginia State Horticultural Society.

FOUR PAYING CROPS PER ANNUM.

Editor Southern Planter:

In an interview this morning with one of our leading truck farmers, we gleaned the following "facts, figures and features" respecting some of his trucking operation, which may be of interest to some of your readers:

We paid special attention and took great interest in the results he had secured and is now securing from one little patch of four acres now in beans (snap beans) about ready to begin shipping.

In September last (1903) he sowed spinach on the four acres, and, beginning after Christmas, he cut and marketed the spinach at the rate of 100 barrels to the acre, getting therefor in Northern markets from \$2 to \$7 per barrel, or an average of about \$4.50 per barrel. On Washington's birthday, February 22d he cut spinach at \$5.50 per barrel.

In March he transplanted 175,000 lettuce plants in this four acres. Just a few days before cutting his lettuce he planted beans (snaps) between the lettuce rows. He cut 450 bushel baskets of lettuce to the acre, which sold for \$2 to \$2.75 per basket. The beans are now nearly ready to begin shipping. The last week in May he planted canteloupes between the rows of beans, at proper intervals. He will get at least 150 to 250 baskets of snaps to the acre, good for \$1 to \$2 per basket, and in July will get 250 crates of canteloupes to the acre, worth \$1 to \$1.50 per crate.

His gross sales will reach \$2,000 to the acre. If his net profits do not reach \$1,000 per acre it is because of gross mismanagement somewhere.

Nature will do her very best to help this gentleman make \$1,000 per acre per annum from that four acres of land. This, take notice, is not hot house work nor fancy work. It is business, strictly business, from start to finish—from one end the year to the other.

Nor is this a special effort upon his part to make a record or to beat some other record. It is a regular thing for him to do, and he is doing it every year. He uses a liberal supply of fertilizers, especially those with a bone base (and there is a "right smart heap" of fertilizer in his hat), he also uses good implements,

and believes in thorough cultivation and manipulation of the soil.

He keeps his land busy summer and winter. He keeps it covered all the year with growing crops, so that neither the frost of winter nor the summer's sun finds any bare or uncovered soil to work upon. Notwithstanding the fact that he grows successfully and easily four crops per annum from the same land, he has all of the month of August to prepare this land for another routine of four crops.

If the regular farmer would but pursue his calling as intelligently and as vigorously as our trucker friend what wonderful results might not be attained in the Old Dominion.

Such results could not be secured unless the soil and climate were very favorable. Even then such results would not be secured except that the markets demanded the produce, and the freight rate and shipping facilities were favorable. The fact is that our soil and climate are both very favorable, and when it comes to freight rates, if we measure by the rate, we are within 25 miles of 10,000,000 consumers. If we measure by hours, we are within 12 hours of 20,000,000 consumers. Therefore the soil, climate and markets, are all stimulating. In such case man will naturally do his best.

A. JEFFERS.

Norfolk, Va.

THE LETTUCE CROP.

Editor Southern Planter:

Mr. Jeffers speaks of intensive gardening with lettuce and snaps, etc. If he wishes to see real intensive work with lettuce he should visit some of our New Bern (N. C.) truckers. One firm there has now 12 acres in frames with steam pipes running through to keep out frost, and they are doing real intensive work, for the lettuce is all gone to market for round prices during the winter and early spring before the out-door lettuce around Norfolk starts, and they have the out-door crop, too. They are now growing celery in these heated frames, starting late in the fall and crowding the plants to bleach and get them ready for market when the market is bare of celery. The same pipes that heat the frames are used for watering as they have sprinklers on them and can attach to the pump and the frames are showered over when needed. This is a start in intensive gardening, and it will not be long before there are acres in the upper South covered with glass structures for real winter forcing of tomatoes, strawberries, snaps, etc. I have grown a fine crop of snaps in the greenhouse in winter in six inch pots, using the English forcing sorts. I

have sold 260 pounds of tomatoes in winter from 26 plants, and got 25 cents a pound for them on the local market when the Florida crop was selling for one-fourth the price. Cucumbers are another crop that we can force in winter much more profitably than the Northern growers, who have to use far more expensively built and heated houses. I have sold forced cucumbers to the winter resort hotels for 75 cents a dozen, and could probably have gotten more if I had grown them in quantity large enough to pay for shipment North. The intensive work that we should do in the trucking section of the South is not merely the intensive use of the open ground, but intensive work under glass that will enable us to compete with the far South with products of higher quality. Then it is also true, as Mr. Jeffers says, that we need more stock farmers, but in a section like that about Norfolk, where the trucking interest is paramount, the man who has good truck land will hardly go into farming with stock, but into that which is the most profitable in his section. But there are vast areas near Norfolk which are not the best truck soil, such as the black, moist lands on the Norfolk and Southern Railroad, where the whole country is devoted to corn only, but which is admirably suited to grass and stock, where stock farming could be made more profitable than any section I know of. With lands as fertile as an Illinois prairie and right at the ports of shipment, export cattle should be more profitable than in the West, from which they have to travel over the whole country.

W. F. MASSEY,

Editor of Practical Farmer.

GARDEN NOTES.

Editor Southern Planter:

The several crops on the truck farm and in the garden will need prompt attention this month. The cultivator should be run as late as possible to make the crops continue bearing late into the fall. If a loose mulch of dirt is not kept on the surface of the soil, most vine crops will bear only one or two good pickings and then fail.

The benefits of cultivation, or the philosophy of tillage, are but little understood by the general farmer. It is too often the case that the farmer makes a rule to cultivate his crop "so many times" irrespective of the season and soil conditions. Hence failure too often results when drouthy conditions prevail. However, this subject of tillage is important

enough for a whole book, and I must pass it by till a more opportune time.

I have found in my experience that it does not pay to stake tomato vines for a general crop to be used in canning. Pruning and staking the vines will make the crop earlier and the tomatoes fewer and larger, and will materially lessen the yield. For general purposes, I prefer giving the soil shallow tillage as late in the season as possible, and then spread straw under the vines to keep the fruit off the soil. This straw will greatly help to hold the soil moisture if drouthy conditions come in July and August. While there has been an abundant rainfall in Southwest Virginia especially, so far, still if drouthy conditions should set in later on, disastrous results would be much more serious. The soil would become hard and parched.

Old strawberry beds will need attention now. If these are very filthy and the foliage much diseased, prepare to set a new bed. Where the bed is not so foul as to require destroying, mow the old foliage down with all the weeds and grass. Let this material become dry, then scatter it over the beds, and where it does not give all the plants a very light covering use some straw or leaves. Set fire to the trash and give the bed a slight burning. Take a one-horse turning plow and throw the soil together between the rows. This will usually kill the filth between the rows and leave a ridge of plants about twelve inches wide. Use a small, sharp hoe to clean out the weeds on this ridge. In about a week use the cultivator on the ridge thrown up between the rows to bring the dirt back against the plants. By this method I have seen old beds be made to bear good crops.

Late cabbage will require frequent cultivation now. The cabbage worm is likely to make its appearance as usual this season. Fresh Persian insect powder dusted over the plants early in the morning while the dew is on and the worms are usually on the outer edges of the leaves may be all that is needed to destroy this serious pest. The hot water treatment and arsenical poisons are often advantageously used, but these things require extreme care in their use, and I do not recommend them to any one who has had no experience with such things. The Persian insect powder is not poisonous to man or plants. Old stock is sometimes kept at drug stores which has largely lost its strength. The fresh article should be had. This powder is a most valuable household article also for flies, mosquitoes and many other insects that infest houses, barns, berries, etc.

Weeds are making a wonderful growth this season. The best way to kill a weed is to do so while it is in the seed. Keep all weeds from seeding, if possible. This will save the back and many drops of perspiration next year.

Sow cow peas on all soil where the truck crops are harvested. This is a wonderful plant to loosen the soil and increase its fertility. It will lower the fertilizer bill and increase the bank account.

Montgomery Co., Va.

R. H. PRICE.

VELVET BEANS.

"Velvet beans are not a desirable crop to make into hay. They make such an enormous tangled growth that neither man nor machine can handle them. They are fit only to use as an improver of the soil."

The above item clipped from the last issue of THE SOUTHERN PLANTER misrepresents a good forage plant. A great many acres of velvet beans are made into hay in Florida every year. Of course on rich land the growth is often almost too heavy to handle and it is slow cutting with a scythe.

I noticed in the Tribune Farmer a few weeks ago that a mechanic had invented an improvement on mowing machines, a device for cutting upright which divides the swaths from the standing crop.

Cow peas have long been used for hay, but I have seen such a growth of vines and crab grass mingled and lodged that a man could only pick out a little at a time with a scythe, yet the whole piece was made into hay.

W. C. STEELE.

Florida.

Whilst it is doubtless true that velvet beans are made into hay in Florida and perhaps elsewhere yet we maintain that the reply we gave to the enquiry is correct. We spoke from a personal knowledge of the crop and also from reports received from several subscribers who have grown them. The mass of tangled vines is so great on good land that neither machine nor man can cut or handle them. We have grown the vines 25 feet long.—Ed.

THE MARKET PROBLEM.

Editor Southern Planter:

The returns from the garden and truck farm will begin to come in this month. How large they will be will depend much upon how the crops are marketed. When a crop is grown, it has been stated that only half the important work has been done. The other half is to market it to best advantage.

In the first place the grower should be looking

out a market long before the crops mature—especially for all perishable products. Also the character and business standing of the buyers should be looked into. The transportation routes need looking after beforehand. If several growers will join together better rates will likely be granted and commission men may be induced to come and buy on the ground. Much will depend upon clean, nice, standard boxes or crates. These should be well filled with fruit and products of an even grade and standard. Everything should be honestly packed and guaranteed to be as represented when sold in unbroken packages.

A grower recently told me he had always sold under a guarantee in the Lynchburg market and his returns ran five per cent. above the market quotations. He had orders ahead for more products than he could grow and ship. He sold berries, fruits and general farm crops.

R. H. PRICE.

Montgomery Co., Va.

We have for years urged the importance of the points above raised by our correspondent, especially those of combined shipments and honest packing in clean new crates and packages. They are vital to success.—Ed.

THE CALIFORNIA FRUIT CROP.

The California deciduous fruit season opened April 30th with the shipment of a box of Sacramento Valley cherries on that date. The first box, which was grown near Vacaville, Solano county, was closely followed by a box of cherries grown near Sacramento and others grown in the Winters district in Yolo county and in the Newcastle district of Placer county. Following these, shipments were made from various fruit districts of the Sacramento Valley.

Notwithstanding the fact that ripe California cherries are usually shipped earlier in the season, sometimes as early as March, the initial shipments brought very fancy prices. The first box was sold in Chicago for \$25, \$3.12 a pound. The second sale was made in New York and the figure was \$21. The third sale, made in the city of Philadelphia, at auction, was a record breaker, eight pounds of cherries bringing the remarkable price of \$70.

These shipments marked the beginning of California's fruit season. Carload shipments from Sacramento Valley districts began May 13th, when a carload of cherries was shipped from Vacaville.

The fruit crop of California will probably be slightly below average in quantity this year. The Sacramento Valley fruit districts, which provide the bulk of California's deciduous fruits, report heavy crops of pears but slight shortage in most other fruits. Apricots will begin ripening within a few days.

Live Stock and Dairy.

DUAL PURPOSE SHORTHORNS.

We take the following from the *Breeders Gazette*. It is in line with what we have long advocated, and will, we trust, receive the attention of some of our breeders. We need, and need badly, in this country a revival in the breeding of the milking strain of Shorthorns. The English farmer knows and appreciates their value. Probably two-thirds of the cattle of that country are of this type. They make milk and butter with the best, and at the same time breed calves which make steers of the best butcher type. We hear that there are several herds of this type in the New England States, but few elsewhere. One herd in Massachusetts tracing to Arabella has had top crosses of the Princess, the Duchess, the Constance and the Waterloo families, and shows cows weighing from 1,200 to 1,600 pounds, with milk records of 40 to 50 pounds per day, and very persistent milkers, some making 11,000 pounds per year. These cattle are smooth and well fleshed, the object of the breeder being to combine beef and dairy qualities. The *Breeders Gazette* says:

Pertinent to the present discussion of the old-fashioned milking Shorthorns, and the accompanying lament over the lack of effort to perpetuate and improve that type, comes the report of a recent sale in England of a herd of eighty pedigreed Shorthorns at an average of nearly \$215. Concerning the character of these cattle the London "Live Stock Journal" offers the following interesting testimony:

"The Cranford herd is one of the largest pure bred ones in the South of England, and is well known for its excellent milking qualities. The animals offered were not made up for sale, but came straight from the meadows, where they are kept both in summer and winter. It would be difficult to find a herd, kept under the same conditions by a tenant-farmer, displaying such excellent quality and such a hardy and yet serviceable character, and that these are appreciated was proved by the number of buyers and their spirited bidding."

The tenant-farmer who can drive eighty head of cattle up from his pastures and sell them at an average of \$215 is in pretty fair business. He knows a thing or two. He knows the demand for Shorthorns of this type, he knows the value of the dual-purpose cow, he has proved it in his own herd, he understands that a double profit may be reaped from the "double-deckers." And many a farmer in this country is looking for just such a farmer's cow. A few have given persistent adherence to this valuable type, but thoughtful men now understand that much has been

lost to the breed by a lack of more general interest in the perpetuation of the milking Shorthorn in this country. If there is any more inviting field of effort at the present time than the founding of herds of strictly high-class dual-purpose Shorthorns, we do not know where it lies. Some material for this purpose may be obtained in this country, an abundance of it could be selected in Britain.

THE CATTLE TICK AND THE QUARANTINE LINE.

Editor Southern Planter:

So long as we entertain the cattle tick just that long will the quarantine line cross the boundaries of our State. It therefore behooves every farmer to join hands with his neighbor in the extermination of the pest and to rally beneath the standard which is being advanced through the efforts of the SOUTHERN PLANTER. There is no doubt but that in this disease just as in a score of others the greater part of the trouble comes through carelessness and absolute neglect. It avails little if farmer A sits up nights trying to get rid of the ticks on his animals while farmer B pays absolutely no attention to the tick question and his animals are permitted to seed the highways and by-ways with this vile insect. The remedy is in co-operation. All Texas is joining hands in the eradication of the dread boll weevil. Conventions and institutes are being held, experts are called, farmers are co-operating, and it begins to look as though the weevil will be banished from Texas. A similar move on the part of the farmers in Virginia will make things uncomfortable for cattle ticks.

Louisiana has recently fattened a bunch of steers that surprised the Chicago markets. They were of high quality, perfectly finished and exhibited the qualities of beef animals to a remarkable degree. The fact that these steers were raised and finished in the hot bed of the tick region indicates that it is possible to overcome the ravages of the tick if care and attention are given. These cattle were kept free from ticks by a liberal use of Zenoleum. The preparations mentioned in the SOUTHERN PLANTER may be effective but we are somewhat suspicious of them and so long as we can get Zenoleum we think we will not risk them. Dr. Nesom, Veterinarian to the South Carolina Experiment Station, tells me that he uses Zenoleum for removing the tick and that he finds it entirely satisfactory.

The feature of this Zenoleum that attracts me most

is that in addition to destroying the cattle tick it also destroys any other parasite that may be present, cures mange, ring worm and other skin diseases and at the same time its effect upon the hide and hair is cleansing and beneficial. The question is not so much what will destroy the cattle tick as is what will destroy the tick and not destroy or injure the animal. Sulphuric acid would no doubt end the career of every tick upon an animal but the trouble is the animal's career would be ended at the same time. What you want to do is to destroy the tick and other parasites, clean the animal's coat and skin and put him in a position to thrive. We know of nothing that will accomplish this so well and so satisfactorily as Zenoleum.

A READER.

THE HEREFORD AS A MILKER.

RELATIVE RICHNESS OF FIRST AND LAST MILK.

Editor Southern Planter:

Errors like weeds grow apace and are hard to overcome. One often hears it said "the Hereford is no milker," although it is admitted that the assertion is founded entirely on hearsay, experience being nil.

On one occasion the writer was asked in earnest if Hereford grade cows gave milk enough to raise their own calves.

Disclaiming an Hereford axe to grind, the ownership of a registered bull and cow is admitted, and for the past five years I have been engaged in breeding grade Hereford calves letting them run with the cows, but a milking test is afforded, in that the cows require milking until the calves are able to consume all the flow. Observation shows that the grade calf makes flesh with a less proportion of milk than common stock and that the milking qualities of the common cow are fully reproduced in the grade one. It must here be understood that I am writing of crossing on common stock which have proved themselves good milkers, and not on full blooded breeds, which would be an interesting experiment but beyond my opportunities. What I want to uproot is the prevailing falsity that Herefords are not good milkers, if raised in a natural condition and not abnormally stuffed to gain superlative fat or show order.

That such falsity should be entertained is to keep out of our herds the admixture from a type of recognized strong (if not strongest) constitution adapted for milk or beef as the on-breeding leads up to. This is a point which on the closer and closer domestication of cattle should be kept very fully in view, and it omens well for the future plain dairy men that

their cows will principally be drawn from the range-bred Hereford which has assumed the mastery of the great West.

In the interest of the dairy I should be obliged by an answer to the following question: Are the "drip-pings" really richer than the rest of the milk or is it merely "tradition"? Should they be so, then logically frequent milkings would give more cream? Why "drip" a cow? W. M.

Albemarle Co., Va.

Experiments have clearly demonstrated that the last milk drawn is the richest. At the New York Experiment Station a test with five cows showed that the first pint of milk contained only .3 per cent of fat while the last pint contained 6.85 per cent. and the mixed milk from the whole milking averaged 2.55 per cent. In every instance the first half contained only from one-third to one-half as much fat as the last half. Similar results are reported from Connecticut and also in Indiana and New Hampshire.—Ed.

MORE FINE JERSEYS FOR VIRGINIA.

We note that at Mr. T. S. Cooper's recent sale of imported Jerseys, Col. A. M. Bowman, of Bowmont Farms, Salem, Va., was again a buyer of some of the best of the stock. Amongst the animals bought by him was Mabel's Blue Belle, three years, \$1,000; Brown Fontaine's Princess, three years, \$675; Eminent's Golden Liberty, five years, \$560; Golden Diplomas Sweet Rose, four years, \$475, and Fontaine's Oxford Belle, five years, \$435. The sale was a great success. Ninety-one head sold for \$44,460, an average of \$488 each. The success of the sale was due largely to the fact that nearly all the females were bred to Golden Fern's Lad, and those not not in calf had the privilege (which none refused) of having them bred before shipment. It will be remembered that Col. Bowman was a large buyer at Mr. Cooper's sale last year. The additions made last year and this make the Bowman herd now one of the finest in the country. Col. Bowman is a constant advertiser in our columns, and those desiring Jersey stock of the best breeding can always depend upon meeting with it at Bowmont Farms.

THE FARM HORSE.

Editor Southern Planter:

I am a reader of and subscriber to the SOUTHERN PLANTER, and think it the best paper of its kind for the Virginia farmer. I think, as W. R. C. said in

the March issue: "It should be a weekly paper, and not a monthly, and charge accordingly." I enjoy especially the part headed "The Horse," edited by Broad Rock. But he gives us very little information about the horse suited to the farmer. The farm horse of this section is at its lowest ebb, the average weight being about 850 pounds, possibly less, making them entirely unfit for the work of the farm. They are too light for the work required and too small to raise good colts from. There is a vast difference in Virginia in the horse of to-day and the horse of fifteen or twenty years ago. They are now much lighter and not nearly so well proportioned. What is the trouble? One of our horsemen in Louisa remarked: "Our horses are getting too near akin." I think myself that is one cause of deterioration, but not the greatest trouble. If we had been raising sires of the proper size instead of the little narrowhipped, thin necked horses, whose fee is from \$4 to \$8 dollars, we would still have good horses. How would some of the heavy draught breeds do here. Percherons or Shires? Some one has suggested the Clydesdale. I have very little personal knowledge of the heavy draught animals named as farm horses. One of our farmers says: "They don't suit the climate." I would like to have some information along this line by some one who *knows*. I don't like the color of the Percheron, it being mostly grey, but that is immaterial if qualities are all right. Can any one inform me, through the columns of THE PLANTER, as to which of the above horses is best suited to the farm? Also who raises them for sale, and what will a pair of mare colts cost at weaning time? Would be glad to correspond with any one having them for sale. I am partial to the Shires. Who has them?

DAVID SWIFT.

Louisa Co., Va.

Will some of our horse breeders please favor us with their views on this important subject. It is high time for us to have better bred and more suitable horses for farm work, and thus become less dependent on Western bred horses for our farm teams.—Ed.

DUROC JERSEY HOGS.

Editor Southern Planter:

I have often been asked to describe the Duroc Jersey, and beg to say a word about this new breed of swine that is forging its way to the top of the hog ladder of fame, and is the leading breed in the great grain growing West, where the stockman wants the

hog that can the quickest convert his corn into marketable pork.

The Duroc is cherry red in color and in conformation is similar to the Poland China, being built low to the ground, long, round, firm body, tippy ears and short face and head. He is just as industrious as the Berkshire, and grows faster and larger than his black brothers. The sows are better mothers, being very kind and gentle and fine milkers, have the best of dispositions, and are the most prolific of any breed. They breed perfectly true to color, and have fine, straight hair. It is generally the case once bred always bred, and there is no better testimonial than this.

There is no doubt that the Duroc is one of the best all purpose hogs being bred to-day, and a trial with them will convince you of the absolute truth of this assertion. My herd is the finest ever owned east of the Ohio river.

WM. G. OWENS.

Chesterfield Co., Va.

JUDGING AGES OF ANIMALS.

At the Smithfield and Birmingham shows the following rules govern the judgment of the age of animals:

Cattle having their central permanent incisors cut will be considered as exceeding one year and six months.

Cattle having their central permanent incisors fully up will be considered as exceeding one year and nine months.

Cattle having their second pair of permanent incisors fully up will be considered as exceeding two years and three months.

Cattle having their third pair of permanent incisors cut will be considered as exceeding two years and eight months.

Cattle having their fourth pair (corner) permanent incisors fully up and their anterior molars showing signs of wear will be considered as exceeding three years.

Sheep having their central permanent incisors cut will be considered as exceeding 10 months.

Sheep having their central permanent incisors fully up will be considered as exceeding 12 months.

Sheep having their third pair of permanent incisors cut will be considered as exceeding 18 months.

Sheep having their third pair of permanent incisors fully up and the temporary molars shed will be considered as exceeding 24 months.

Sheep having their corner permanent incisors well up, and showing marks of wear, will be considered as exceeding three years.

The Poultry Yard.

FEEDING HENS.

Experiments conducted on the Stockman Poultry Farm demonstrate that it is not fair to charge the cost of keeping a hen at \$1.25 per year as is frequently done. Last year the average cost was 77 cents. Excluding all on open range and taking only yarded pens on the regular ration, the cost was 84 cents. The average weight of these hens is from five to six pounds. I believe Mr. Boyer's hens are Light Brahmas, which require somewhat more feed. It is hardly fair, however, to take that breed for a standard of comparison in feeding, for there are few who are foolish enough to attempt to produce large numbers of market eggs with Light Brahmas—except in the East, where high prices offset many disadvantages. The average price of feed was 1 1-7 cents, corn being 1 1-7, run-of-mill 1 1-4, oats 1 1-2, animal meal 2 1-2, and meat scrap 3, beef heads 5 cents each. The regular ration here is corn, run-of-mill and cooked meat.

While trying to "prove all things" I hold fast to that which I have found good, and am more and more convinced after each experience with special feeds that there is no more economical or efficient egg ration than corn and run-of-mill, with meat and green feed, of course. And this is true in spite of the danger of feeding an excess of crude fiber. This danger may be greatly lessened by adding a small amount of oil meal to the mash, the cooling and soothing effect of which helps to modify the effect of the bran. And it is worth while to note here that some of these proprietary feeds seem to carry nearly as much crude fiber as run-of-mill.

As Mr. Patton observed in a recent article, oil meal is a cheaper source of protein than bran, though it should not exceed 20 per cent. of the weight of the mash; \$1.25 will buy twelve pounds of protein in bran and twenty-four pounds in oil meal.

On this ration the feed consumed by each hen has averaged over three ounces a day or from seventy to eighty pounds a year. The heaviest laying pen, No. 3, required eighty pounds.—*National Stockman*.

BOWEL TROUBLE.

Bowel trouble is one of the most prevalent causes of destruction to the young chicks. This may come from many causes, among which is continued dampness, wet and cold. Much of this may be avoided by having a dry, comfortable coop for the young chicks where they can be in with the hen and away from the influence of the damp, injurious surroundings.

Another cause is insect vermin. Where the young chicks and the mother hen become infested with the insect vermin or lice which reduces vitality, if the weather is warm, sultry and rainy, the combined influence so reduces the system as to create bowel trouble, which is very hard to overcome. The best way out of this is to obliterate the presence of the insect trouble on the mother hen, the chicks and in and about the coop, and to feed good, warm, stimulating foods to build up the constitution.

There is nothing better for building up a weakened constitution from any of the bowel troubles than a mixture of very finely ground oats, equal amount of corn meal, some wheat middlings mixed with milk, boiled until thoroughly dry. Into this put one level tablespoonful of the following powder for each twenty-four chicks. This powder is made of equal parts of very finely ground ginger, cinnamon, cloves, allspice and cayenne pepper. Do not give this oftener than once a day, and the other foods should be made up of either whole or broken wheat, hulled oats or oatmeal and a little cracked corn.

Another most beneficial food is the Johnny cake that can be like a true corn bread made entirely of ground meal mixed with milk, either sweet or sour, with a little bit of baking powder put into this, and an egg or two, using the clear eggs that do not hatch. Mix this thoroughly as you would corn bread and bake in the oven. When cool crumble and feed to the young chicks. Cooked foods of all kinds are very beneficial to the depleted lot of chicks, because it is much more easily handled through the crop and gizzard and assimilated through the system, and all possible injury that may come from eating raw meals is removed through its use.

GAPES IN CHICKENS.

To the Gazette.—In your May 18th issue I note a communication from an Indiana reader concerning gapes among his chicks and his experience with them. The many remedies he suggests are all right, but they are too tedious to apply. Clean yards and runs may be essential—in fact, they are—but after the gapes are among the chicks they do no good. Lime is a good cleanser of the yards if plowed under or spaded in. We keep our yards in green feed and if any gapes are noted among the chicks we put three to ten drops of carbolic acid in a gallon of water in fountain, stirring thoroughly into the water. Put other water out of reach and the chicks will kill their own gapes. We know this to be an unfailing remedy.

—*Laurel Co., Neb.*

A. D. BURHANS.

The Horse.

NOTES.

Seemingly greater interest was never manifested in breeding horses than at the present time, as indicated by reports from many different sections. This applies particularly to our own State and where lethargy prevailed for a number of years the scene has shifted to one of activity. Harness stallions in the vicinity of Richmond have all been quite liberally patronized. Robert Ransom, 2:29 $\frac{3}{4}$, who died in May, served some good ones, as have Great Stakes, 2:20; Alfred Nelson; Lord Chancellor; Kelly, 2:29, and others. Speaking for Kelly I am pleased to state that no horse ever offered for service in this section has seemingly found greater favor in the eyes of breeders as may be shown by the way in which high-class matrons have been sent to the court of the son of Electioneer and famous thoroughbred Esther. Of course, his near relationship to Expressive, 3, 2:12 $\frac{1}{2}$, being a full brother to that noted mare makes his pedigree wonderfully attractive, but in addition the bay stallion has speed, good looks and potency himself. Expressive is 16:2 hands and last fall at public auction in New York the great daughter of Electioneer brought \$1,700 as a brood mare. Esther, the dam, was 16 hands, while Kelly is full 15:3, which shows that the family breeds size, ever an important consideration with breeders.

D. L. Flory, of the Warwick Stock Farm, which is near Denbigh in Warwick county, Va., owns a well bred young stallion in Lord Warwick, 35971, formerly Duke of Arundel. He is a bay horse, four years old, by the famous Onward, dam Cora Ettie, dam of Axle, 2:15 $\frac{3}{4}$, and Annie Ripley, 2:18 $\frac{1}{2}$, by Adrian Wilkes. Over fifty mares, many of them the best in that section, have been mated with the son of Onward this season, among them being such good ones as Etta Moore, 2:19 $\frac{1}{4}$; Santa Annita Maid, 2:20, and others with records.

In the bay mare Virginia, 6, by Greatstakes, dam Tredelma, by Trevilian, Richard Hentechel, of Baltimore, has a good prospect for a 2:15 performer. She is one of the first performers of the season to enter the list of standard speed and trotted to a record of 2:21 $\frac{1}{4}$ at Baltimore recently. Virginia was bred at Foxhall Farm, Norfolk, Va., by Capt. John L. Roper. Her sire, Greatstakes, is owned by W. H. Nelson, of this city, and is credited with Foxhall, 2:19 $\frac{3}{4}$, and other speedy trotters.

The bay pacing gelding Hutchcroft, formerly owned by S. P. Clay, of this city, but now the property of H. C. Slagle, Emporia, Va., created some-

what of a sensation by winning a couple of races and being placed in others at the recent Baltimore meetings. He first started in the 2:28 class, pacing, landing the event with ease, after which S. Bosworth, of Newport News, Va., who entered the big gelding, was asked to identify him. Hutchcroft is eight years old and was bred by M. S. Baughman, Sanford, Ky. He was sired by Naboth, 2:19 $\frac{1}{4}$, dam by Harkaway, 2875. The gelding was brought here from Lexington, Ky., in November, 1902, by Shelby T. Harbison, who sold him at Joseph Lasetter's sale. Mr. Harbison stated that the horse had no record.

Etta Moore, the bay mare by Albert H., dam Medietta, by Happy Medium, owned by P. H. Wright at Island Home Stock Farm, Mulberry Island, Warwick county, Va., is now in the stud, and she is producing foals that promise to develop speed and race horse quality. This mare was purchased as a yearling by Mr. Wright and at four years she trotted to a record of 2:28 $\frac{1}{4}$, while later she made 2:19 $\frac{1}{4}$ pacing, but could do much faster at either gait. Among the produce of Etta Moore, owned at Island Home, are the roan stallion Ebliss, Jr., 5, by Ebliss, son of Advertiser, 2:15 $\frac{1}{4}$; a yearling filly by Russell Rex; a suckling filly by Lord Warwick, and this season she was bred back to the latter horse. Ebliss, the sire of Etta Moore's oldest foal Ebliss, Jr., was formerly owned by Mr. Wright and gave promise of making a trotter and successful stock horse, but died before his speed was developed to any extent. Ebliss was bred at Palo Alto Farm, California, and sired by Advertiser, dam the great brood mare Sprite, second dam far famed Waterwitch.

Robert Bradley's home bred race horse Boney Boy, the perennial performer and successful both on the flat and over the jumps, broke down recently in a steeplechase event at Chicago. Sired by Blitzen, The Iron Horse, dam Sue B., by Prosper, his pedigree does not extend far back on the maternal side, but at that he was a good racer and won money season after season, defeating during his career some of the best horses out on the flat, after which he was relegated to the cross country brigade and even there was able to earn his oats. The son of Blitzen is a chestnut gelding eight years old, and even now may round to and be patched up for a few more races.

One of the good steeplechase horses of the season is Grandpa, 5, by imp. Grandmaster, dam Phillipa, by imp. Darebin, who won recently at two miles at Gavesend. Grandpa was bred by A. S. Craven, Greenwood, Va.

BROAD ROCK.

Miscellaneous.

THE LABOR DIFFICULTY IN THE SOUTH—AN OPEN LETTER TO THE SECRETARY OF AGRICULTURE.

Editor Southern Planter:

I enclose you herewith for publication an open letter to the Secretary of Agriculture.

I am one of the correspondents of that department and it has occurred to me that perhaps the letter will be of interest to your readers. The idea that perhaps it would be wise on the part of the white people of Virginia to offer to the heads of negro families a considerable bonus to induce them to emigrate to the North was first suggested to me by Mr. Morelle Bruce, of the county of Charlotte, and the more I have thought of it the better I have liked it. Neither Mr. Bruce nor myself are animated by any feeling of hostility to the negro; on the contrary both of us entertain toward the race a kind feeling and we are desirous to promote their prosperity. At the same time we recognize the fact that our first duty is to our own race and the recent example of the change of labor made by Mr. Bruce on his Charlotte farm is of extraordinary significance and importance. I violate no personal confidence by making it public. It will be noted that I have alluded to it in my letter to the Secretary of Agriculture. When I wrote this letter I had no idea of having it published but it seems to me after reading it over that some of its suggestions are worthy of publication. My own experience of negro labor coincides with that of Mr. Bruce though I still have left a good old headman who keeps the keys of my corn house and indeed of all of my outhouses, and I would not change him for any man on earth. I mention this to show the sincere feeling of kindness which animates my bosom towards the negro race. At the same time I recognize the fact that for ten years and more negro labor on the farms in Virginia has retrograded to an extent which makes it almost practically useless. A change is needed and is inevitable. The suggestion of Mr. Lafferty about the introduction of Chinese coolie labor is worthy of thoughtful consideration. If not why not? We are confronted "not with a theory but a condition." It has become practically impossible to get domestic labor, such as cooks, nurses, washerwomen, chamber maids and house servants generally in the country, and it is almost as difficult to get efficient field labor. This state of things cannot last. Efficient labor is a factor essential to the successful pursuit of agricul-

ture; without it we are sure to lag behind in our progress as a State. Few States offer greater inducements than Virginia to the farmer; and in this connection I beg to congratulate you upon the valuable aid which your periodical has given to the successful prosecution of agriculture. Indeed I consider it second to no agricultural paper, anywhere in our broad land, and it seems to improve with age.

Albemarle Co., Va.

CAMM PATTENSON.

Howardsville P. O., Albemarle Co., Va.,

June 23, 1904.

To the Secretary of Agriculture, Washington, D. C.

Dear Sir,—I enclose herewith my monthly report and I invite attention to that part of it which notes the large decrease this year in the cultivation of Regie tobacco. Our lands are mainly adapted to the cultivation of rich dark heavy shipping tobacco and the price the last season, owing to the drastic monopoly of the American and Imperial Tobacco Companies was so low that its cultivation is likely to be abandoned, *as it does not pay the actual cost of cultivation*. The cultivation of the Oronoco tobacco on our high lands is likely to be continued, but in a much smaller way; this Oronoco tobacco is much lighter than the Regie shipping leaf, and is used by some manufacturers for both chewing and smoking products, but the price of that also is so materially reduced that in future the cultivation is likely to be confined to a very limited area. This is not altogether as bad as might upon first inspection be thought as hay and corn are being substituted in its place, together with the raising of cattle and other industries hereafter mentioned. And in this connection I beg that you will mail me any convenient literature you have relating to the *proper fertilizers for corn and hay and the preparation and cultivation of the land for both crops*. Our James river low grounds between Clifton Forge and Norfolk will produce on the best of it without any fertilizer fifty bushels of corn to the acre and in the fall we can make a small but fair profit by selling corn at the stack, shucked but not shelled at thirty-five (35) cents a bushel and, shelled corn in the spring at forty (40) cents a bushel. Our best James river low ground land with superior cultivation, that is proper seed and planting and continual stirring by cultivators, harrows and disc plows, without any fertilizer, can be made to produce fourteen barrels, that is seventy bushels to the acre and the crop with judicious cultivation, both high land and

low grounds, can be largely increased and made more profitable, and it is for that reason I wish you to mail me any convenient literature you have upon the subject for the use alike of myself and my neighbors, and I wish the literature relative also to hay, as it is (especially Timothy hay) more profitable than corn. We can, I think, make our meadow land produce two and one-half tons of Timothy hay to the acre with a very small application of nitrate of soda and bone meal, that is 5,000 pounds to the acre and it readily sells at an average of about \$14.00 per ton which owing to the small amount of labor it requires, gives us a very handsome profit. Our condition is being considerably improved by the voluntary emigration of the negro, who for ten years and more, has been a very unsatisfactory workman, in fact he has come to be a consumer without being, except to a small extent, a producer. Fortunately for the farmers and planters he is slowly but surely emigrating to the North where I suppose superior inducements are offered him. It has astounded me to find the immense superiority of white labor over negro labor. We thought at one time that we would be ruined by the emigration of the negro, but it turned out to be a blessing in disguise. His emigration was not caused by any bad feeling on the part of either race, on the contrary for more than ten years the feeling in this section between the two races has been very friendly; it seems to have been caused by the higher price offered by the public works and times for labor, and this was aided by a natural feeling of restlessness and a desire to travel. Wherever a white man of industrious habits has taken his place the result has, in many instances, been a doubling of the crops, and the proportion, singular as it may seem, has been sometimes greater. Some of us actuated by a sincere desire to promote the prosperity of our State and without any feeling whatever of hostility to the negro race, are seriously contemplating the idea of offering negro families a considerable bonus in cash to induce them to emigrate either to the North or to the cotton fields of the South. To give you a practical example of the benefit to be derived from the substitution of white labor I am credibly informed by Mr. Morelle Bruce, of Charlotte county, Virginia, that some four years since he substituted about 150 white men in the place of 300 negroes as laborers on his large farm of some 5,000 acres with the result that the first year the crop of corn was increased by white labor from 20,000 bushels to 35,000 bushels, and other crops in the same proportion. Mr. Bruce had lived some years west of the Mississippi river and upon his return to

Virginia, made the change. His father had been a large slaveholder, owning about 1,000 slaves or more, and 5,000 acres of excellent land in Charlotte county, Virginia. Mr. Bruce, after an experience of both systems of labor, white and colored, came to the conclusion that white labor was almost 100 per cent. more productive, and practice has proved the correctness of his theory which coincides with my own observation and experience. I mention it in this correspondence because efficient labor is a factor in the cultivation of crops, which is essential to success. The change in Virginia, from the old fashioned cultivation of tobacco and wheat (both of which in great part will soon be abandoned) formerly the two chief crops to corn, hay, cattle and the raising of mules and horses, together with fruit raising in many localities, has been very slow, but in the past three years it seems to have received an accelerated impulse of which I think it is proper that your Department should be informed, as it bids fair to increase our prosperity as a State, and in this connection it will be a favor if you will mail me any convenient literature you have relating to nitrate of soda, potash and phosphoric acid as it is the wish of the most intelligent class of our farmers to buy these ingredients *and mix them themselves at home*, as our experiments have uniformly proved that where we buy the ingredients *and do our own mixing* the result is in every instance within my observation a value of full twenty-five per cent, and more, over the highest class complete manufactured fertilizer. We wish to know where we can buy cheapest, nitrate of soda, (which contains the ammonia we need) and bone meal which contains the phosphoric acid and especially potash. These articles are not sold in Virginia at wholesale or retail except in Norfolk and Richmond, and at only one place in Richmond and on a very small scale and high prices in both places. The manufacturers of prepared fertilizers for obvious reasons do not desire the farmers to buy those articles and mix them themselves, as it militates against their profits. Any information you can give me on the subject will be of great practical value, and it will be thankfully received. Since we have discovered the significant and important fact *that all land both rich and poor contains exactly the same qualities with the exception of only three things*, namely: (1) ammonia, (2) potash, (3) superphosphate of lime or phosphoric acid, it has been of *commanding importance*, for it gives us the key to the situation and all that the farmer wishes to know is to find out by a chemical analysis which of these ingredients his land needs. *It is hardly possible to over-*

estimate the great value of this information. It has become as necessary for a farmer to be educated as a lawyer or physician and the study of agricultural chemistry is of great importance. I have no hesitation in stating that agriculture will eventually become one of the learned professions, and the success of the farmer will depend greatly upon his knowledge of the qualities of the soil that he cultivates. I beg that you will pardon me for the length of this letter; my apology for it is the importance of the subject.

Most respectfully and truly yours,

CAMM PATTESON,

Senator representing the 18th Senatorial District of Virginia, composed of the Counties of Buckingham, Appomattox, Charlotte and Fluvanna in the Virginia Senate.

P. S.—I read over this letter to an intelligent neighbor, who is a successful farmer, and he called by attention to the fact that I had neglected to mention the raising of sheep, (sheep husbandry) which has begun to increase in Virginia since the passage in 1903 of a "dog law" for the protection of sheep, by our Legislature. That law has been earnestly advocated by sheep raisers for many years and seems to work well. Experience in sheep raising seems to prove the fact that it is uniformly profitable where the flocks are small and uniformly unprofitable where the flocks are large. In England flocks of a thousand or more, I am informed, can be profitably raised; here from fifty to seventy-five seems to be the limit. I would be interesting to know the cause of the difference in the two countries. I cannot close this letter without complimenting your Department upon the signal advance it has made in the past five years. The improvement has been very great and it is second in importance to no department of our government and with every year it appears to broaden and become more and more valuable. The State of Virginia for the past quarter of a century and more has moved slowly in the direction of intelligent agriculture, which I am satisfied arose in great part from its system of labor, to which I have alluded. Since the commencement of the gradual abolition of that system and the introduction of a new regime it has made a new departure and soon will grow with leaps and bounds, for kind nature has blessed it with a good climate and a fertile soil, and above all an homogeneous Anglo-Saxon population.

CAMM PATTESON.

Buckingham Co., Va., June 23, 1904.

FARMERS' CO-OPERATION.

Editor Southern Planter:

Dear Sir,—Believing that your paper is probably read by more practical farmers than any other with a circulation in Virginia, I am emboldened to call your attention to an editorial in a recent issue of the "Fruitman's Guide," the official organ of the "National League of Commission Merchants," in which the "Southern Produce Company" is attacked in the following uncompromising terms:

"What was more regrettable in the history of last year's business, than the way in which the merchants of the various cities fell victims before the *bulldozing* and *buncoing* tactics * * * of that association of Norfolk shippers known as the "Southern Produce Co.," who forced down the rate of commission on Norfolk stuff from 7 per cent to 6 per cent, with a rebate of 1 per cent, to go back to the Association for its own purposes, the receivers thereby paying for a grindstone on which a knife might be sharpened to be used to cut their own throats."

The "Guide" then goes on to show that the whole movement is a wrong one for the shippers. Refers to the shipper as a "rate cutting devil" and finally urges the commission merchants to "stand together, shoulder to shoulder, and insist on the restoration of the old 7 per cent. rate. To adopt the motto of Dumas' Three Guardsmen, "All for one and one for all," and so to bring the *shipper* to his *marrow bones*.

Now, Mr. Editor, was there ever put in print a greater piece of *rot*? Here is a man who sets himself up to give advice to a body of men doing business amounting to the hundreds of millions, and he advises them absolutely to quarrel with their bread. Advises the agents to combine against their principals and bring them to their marrow bones. But, sir, the fight is not against the cut in commission rates, brought about directly by the Southern Produce Co. near so much as it is against *any organization of farmers* for their *mutual protection and advantage*.

Every branch of business with which the farmer has to deal is strictly organized. Why not the farmers. Why is it that as soon as the Norfolk shippers seek to form an organization—on strictly business principles—for their advantage, and the better handling of their business, that forthwith a howl goes up and they are "bulldozers" and "buncoers." No such terms were used against organizations in other lines of business. The groceryman, hardware man, builders, plumbers all have their organizations, why then this outcry against the truck farmers of the Nor-

folk section? There is but one answer. The farmers of Eastern Virginia and North Carolina have been absolutely unorganized and have been, and are now regarded—by certain people—as the legitimate prey of every “beast of the field.”

The formation of the Southern Produce Co. is a starting point. If other sections should “take the hint” and “fall in line” those people, who have been able, heretofore, to fatten on the farmers, because they were unorganized, see the end of their “picnic” hence these tears. Everybody realizes the wonderful things that might be accomplished by a combination of the farming interests of this country, except (oh the pity of it) the farmers themselves. While feeding the world they, as a class, are poorly fed. While drawing for others they know what it is to thirst. Numerically the strongest, they suffer to be ruled.

Why is it? Because they never have known their strength; they are not organized.

The one word in the English language more potent than any other for the emancipation of the farmers is *organization!*

Preach it, Mr. Editor, call attention to the cases (few and far between) where the farmers have put it into practice, ding it into their ears till they must put it into practice, and future generations of farmers, enjoying the benefits of organization, shall rise up and call you “blessed.”

Nansemond Co., Va.

FRANK WRIGHT.

THE ENGLISH SPARROW.

Editor Southern Planter:

There is so much prejudice against the English sparrow that it seems almost hopeless to combat it. I have written much in defence of the sparrow and I do not intend to repeat it. Nevertheless, I desire to state one fact.

About fifteen years ago I took possession of a small farm in Northampton county, Va. There was a small flock of sparrows there at the time which has not perceptibly increased. There were but few of our native birds there at the time, but now the air is resonant with their songs. I cannot begin to enumerate them, but the principal recruits have been robins, catbirds, mocking birds and wrens.

I attribute the increase of the native birds mainly to increase of trees which I planted, to cultivation of the soil before uncultivated, and to continual occupancy of premises, assuring birds protection against their natural enemies.

So much for the statement that English sparrows

drive other birds away. One ounce of fact is worth a pound of fiction.

To change the subject: In December before last I planted round (Irish) potatoes and they matured about the same time as those planted in March subsequently, though they only received one-half the quantity of fertilizer used on the last planted. I would recommend one-half the usual quantity applied when planting and the other half in the spring when they are barred or shucked off, just as is usual with cabbage.

Washington, D. C.

GEO. C. HENNING.

MR. CLARK'S GRASS EXPERIMENTS.

Editor Southern Planter:

I am now experimenting to learn just what time is best to use commercial fertilizers for hay production. I have been using a grass fertilizer at the time of seeding which is, so far as I know, all right, but I am trying to learn whether there is any better time when, or quantity to use for what I call my spring dressing, than I have been using for years. Last year I made a special effort to make three crops upon a quarter acre section of my grass field, a section that has been intensely cultivated for years before seeding. For the first crop I put on at the rate of 650 pounds per acre of the spring dressing made from one-third bone, one-third muriate of potash and one-third nitrate of soda; for the second crop, 250 pounds; third crop, 250 pounds of the same spring dressing, making in all at the rate of 1,150 pounds of the above compound to the acre. My last year's report from this quarter acre section said: “The most remarkable result will be shown this year, 1903. From a quarter acre section where the first crop cut was over four feet in height and weighed 2,471 pounds; second crop cut this year from the same field was over three feet high and weighed 2,240 pounds, making seven and one-half feet in height. Each crop was full headed and blossomed. The third crop did not blossom, but weighed 1,750 pounds, or at the rate of three and one-half tons to the acre. The total weight of the three crops from this quarter acre section this year was 6,401 pounds, or at the rate of 25,644 pounds per acre, and a total growth of over nine feet. This quarter acre section at \$16 per ton produced hay at the rate of \$136 net profit per acre. The general average of my field for eighteen years has given a net profit of over \$50 per year per acre, hence I say we can, if we will, make money in grass culture.”

The cost of the fertilizer applied on this quarter

acre section was less than \$2 per ton, as you will notice, the rate obtained was 25,644 pounds per acre, which would be quite a little less than one dollar per thousand pounds of dry hay. The first of May this spring, 1904, I found double the growth that there was on the general field where I had put on the fertilizer in my usual way, for that reason thus far I have put on no fertilizer upon that quarter acre section this year. June first I find the following results: On the quarter acre section the average height of grass is two feet, a thick stand, extreme height when drawn up 33 inches. A section of it cut and wound in a roll lengthwise, the balance in the weight is 12 inches from the butt of the roll. Applying the same test on the general field, which has had 650 pounds of fertilizer per acre this year. I find on June first the general height 22 inches, extreme height 31 inches, balance of weight 11 inches from butt, so that at this writing there appears to be an advantage in using what I call the spring dressing in the fall, perhaps we may find that it would be as well to use a part in fall and a part in spring. Of course, one trial determines nothing. I am going to keep on if my life is spared, and report my findings. The grass the writer refers to is Timothy and Red Top. Orchard grass and clover will be ripe in a week, dead and unfit for hay long before the Timothy and Red Top is in blossom.

To all who will send me a 2-cent stamp I will send a circular that will tell them what I have found in the last eighteen years in grass culture, and later I will tell them what other facts I find. My experiments are free to all except the cost of postage.

Higginum, Conn.

GEORGE M. CLARK.

THE NEEDS OF THE SOIL.

Editor Southern Planter:

It is distressing to travel over our county (Henrico) and see how steadily it is going back in fertility for the want of humus and lime. Some say they can't afford to buy and haul manure from the city. They are not compelled to do that. It is much cheaper to sow rye, buckwheat, peas or other fallow crops, and plow them in than to haul manure if you had it. Rye sown in the fall and plowed down in May will help greatly, then sow peas on that fallow and it will help still more. The peas should be plowed down in the fall and a few bushels of lime be put on and dragged in. Some say they cannot buy peas at \$2 per bushel, then these men should raise them. Plant a few acres in drills three feet apart in the

spring or early summer. Work them a few times with a cultivator and pick the peas when ripe, they will then have seed and to spare. It won't pay to plow and cultivate land without humus in it. There is no use in sowing grass seed on a poor, unlimed soil; it is throwing money and labor away. Try to improve a few acres at a time with peas, crimson clover, rye and Vetches, and see if you cannot do better. You cannot work your horse without feeding him, neither can you profitably keep working your land and not feeding it. Work less land and feed it better.

F. GUY.

Henrico Co., Va.

SIMPLE CURE FOR MILK FEVER.

Mr. D. C. Dilworth, Spokane, Washington Territory, writes: "Dr. James Bullivant, of this city, cured a very bad case of milk fever a few days ago by pumping the cow's udder full of air with a common bicycle pump. The cow was given no medicine of any kind; was lying flat on her back unconscious, and after being inflated was on her feet eating in four hours, and is now giving a good flow of milk. It is an easy remedy to try if the oxygen treatment is not within reach."

Mr. W. H. Ladner, Delta, British Columbia, writes the "Farmer's Advocate" that his farm foreman has cured several very serious cases of milk fever by inflating the udder with air, by means of a bicycle pump, the cow in one case perfectly unconscious and badly swollen. The oxygen treatment is certainly the safest, as udder infection should by its use be guarded against, but where the equipment for administering it is not available the bicycle pump is all right if the apparatus used is first dipped in boiling water, or some disinfectant.—Farmer's Advocate.

ROTATION AS A FACTOR IN GROWING IRISH POTATOES.

Editor Southern Planter:

Here is something against the "rotater" and in favor of the "tater" theory.

Mrs. Bettie Sutherland, of this neighborhood, has the largest, healthiest and most vigorous potatoe vines I have seen this season, on a piece of ground that has grown potatoes every year for the last forty years and growing the same variety of potatoes every year, the old White Mercer, and has never failed, nor has ever been troubled with blight or bugs. This fact seems to be up against the theory of changing seed and ground every year.

J. N. FARIS.

Albemarle Co., Va.

ANGORA GOATS.

Having had a good many enquiries recently as to Angora goats and especially as to their adaptability to our climate and conditions we take the following from the National Stockman, being the views of a Virginia goat keeper on the subject:

A subscriber of Ashland, O., wants to know "How to raise and care for Angora goats, and what profit there is in them." I have been breeding Angoras for ten years with fair success and think from experience that I know at least something about them. In the first place any one who is a successful sheep raiser will have no trouble in raising Angora goats, as their habits are much alike. The Angora must have a good shed or shelter during cold fall or spring rains. Unlike a sheep he does not have to be driven to a shelter out of a storm, but will immediately seek shelter when the storm approaches. A rain will drench the Angora to the hide, its fleece does not shed water like a sheep's fleece, therefore the importance of having shelter for them, at any rate in the latitude of Northern Virginia.

I have my does to kid in April if possible. Have never had any trouble to have does own their kids. They usually kid during the day. We immediately put doe and kid in shed or yards, and keep kids there and turn does out during the day for two or three days before letting the kids follow. A kid will endure more hardship than a lamb.

The Angora's natural food is browse (brush, weeds, etc.). I find they will thrive much better where they can get plenty of brush than on grass alone, and they must be out where they can have plenty of exercise, as they will not do any good in close confinement.

As to fences, as a rule Angoras are not jumpers, but they are "corkers" to creep, much like a hog. Of course a woven wire fence is the ideal goat fence (as it is for all stock) but a board fence, or a stake and rider old-time fence, or a common rail fence without locks, will hold them.

As to profit, if you have brush or filthy land to clean up they will do it to perfection and will more than pay for their keep for so doing, and you have the fleece and increase clear, but if you have to keep them strictly on grass I think they are no more profitable than a good flock of sheep. An enquirer writes:

"I live where there is laurel. Will they or their young ones eat it and will it kill them like it does our sheep?" Yes, just the same.

Mr. Harold Bingess, Lafontaine, Indiana, writes: "I would like to know if they will eat the sprouts in the woods and not destroy the timber." No, they will not destroy the large timber, but will frequently peel saplings from two to four inches in diameter and kill them. They must be kept from fruit trees and all shrubbery. I find that the fleece (mohair) on a well-

bred Angora averages in price about the same as a sheep's fleece. I sell my wether kids when selling to a dealer at the same price as lambs. I have received so many letters lately from parties from all sections of the country asking information about Angora goats that it is impossible for me to answer all of them, but think the above answers most of the questions. I am glad to see so much interest manifested in regard to the raising of Angora goats, for they have come to stay, and in localities that are suited to raising of Angoras there is nothing that is more profitable.

B. F. RICHARD,
Shenandoah Co., Va. in National Stockman.

PHOSPHORIC ACID FOR WHEAT.

Editor Southern Planter:

Last fall when sowing my wheat on the farm I drilled in with the seed one hundred pounds of acid phosphate per acre. Some places were left without any fertilizer. This fertilizer analyzed 14 per cent. of available phosphoric acid. The amount used was rather small, I admit, but my object was to bring the crop on early, avoid the rust, and ripen the crop with large, plump grains. The land I was seeding was rich enough for wheat, but it was rather low and moist. When this land was seeded previously the crop was usually much damaged by rust, and consequently the grains were not plump. Now, for the results. My crop is beginning to ripen beautifully, the heads are very large, there is no appearance of rust, and the grains seem very plump. While the crop is rather thin on the land, owing to the extremely unfavorable winter, still I am convinced the fertilizer will pay more than double what it cost me. In fact, where no fertilizer was used, the crop is not half so good. The heads are very short and the wheat is at least one week later.

I have secured a good stand of grass on most of the wheat land. I have no large bill to pay for potash and nitrogen. In fact, I have been convinced long since that our clay limestone lands of Southwest Virginia ordinarily do not need nitrogen and potash near so much as phosphoric acid. I believe, from experimental work, that nitrogen is often a disadvantage to wheat, especially on low, rich bottom lands. It makes the crop rank in straw growth, makes it later in maturing, and thus renders it much more susceptible to the attacks of rust.

It has long been known that phosphoric acid goes into the seed and hastens the maturity of the crop. But how small is the per cent. of our farmers who know the effects of fertilizing ingredients upon crops?

Too many are influenced by the brand or name. Frequently our fertilizer bills could be cut down one-third if we were guided in our purchases by the needs of our soils, and still we would have just as fine crops. Now, at harvest time, is a good opportunity to learn valuable fertilizer lessons. If we can cut our fertilizer bills down one-third and grow just as fine crops, we in Virginia can save enough money to buy all our grass seed. The money spent for nitrogen to produce general farm crops had better be spent for clover seed, or cow pea seed. Farmers, as a class, must study the fertilizer problem more closely. Wheat, especially, is one of the least paying crops we grow, still we must grow it. If we can cut down the acreage, increase the yield and lessen the expense the saving will be enormous to the State.

Montgomery Co., Va.

R. H. PRICE.

HAWKS AND CROWS JUST ONE MORE TIME.

Editor Southern Planter:

I assure you that it is not my intention to become tiresome to either you or your readers in the discussion of the benefits or financial disadvantages of the proposed domestication of the hawk or crow. The compilation of statistics from the Agricultural Department, Washington, D. C., has made me stronger in the faith that the hawk merits no place in the domicile of the farmer. The crow seems to have been somewhat ignored in these statistics of Uncle Sam. Was this on account of his color?

On reference to the examination of the crops (crows) of the three species of hawks known as "chicken hawks" by the Agricultural Department, I find that out of 562 crops of red-tailed hawks, fifty-four contained poultry, fifty-one other birds, and forty-seven insects.

Of the crops of 220 red-shouldered hawks examined, three contained poultry, ninety-two insects.

Out of 103 crops of Cooper's hawk, twenty-four contained poultry or game birds, fifty-two other birds, two insects.

You will observe, Mr. Editor, that I have not mentioned all of the amphibia or mammalia, etc., contained in the crops of the hawks examined, because your readers who have much interest in protection of poultry and insectivorous birds can easily refer to page 339 of the May issue and have full report, and thus decide on the wisdom or unwisdom of protecting hawks and crows rather than the juicy little broiler and the active insectivorous innocents mentioned above.

A few conclusions reached from the report of the examinations made by the Agricultural Department will terminate my observations.

When we consider the indefatigable efforts of farmers now to protect their poultry from hawks and crows, and still they are financial losers, what greater proportion of loss would necessarily follow if they attempted to domesticate or protect the voracious pests?

Even now while I write I hear the report of the exasperated farmer's breech loader reverberating through the forests, he making earnest effort to bring to mother earth the roughish crow or hawk, which, like "Uncle Ephraim" when his old woman was hurling accusations at him for stealing the judge's pig—protested that he did not steal the pig, but just took him without the judge's consent.

I take it, Mr. Editor, that when the crows and hawks have been domesticated or protected and with impunity can have access to the poultry yards of the country, they will soon lose desire for lizards, bugs, skunk, etc., and begin to devote all their gustatory energies on the juicy broiler, emphasizing in this the propensity of man to select the most palatable and reject the insipid.

By further reference to the Agricultural report it can be easily seen that the number of insects destroyed by the clumsy hawk is by far in inverse proportion to the number of insects which would have been destroyed by the active little birds which were killed by the hawks. We owe protection to the little insectivorous birds and their eggs as well as to the poultry of the industrious farmer's wives, and crops of the industrious farmer. This protection must come by efficient legislation as well as by destruction of those birds of prey whose crops (crows) on examination prove them to be a menace to the interests of the agriculturist by their destruction of insectivorous birds.

Now, Mr. Editor, for your courtesy and patient indulgence I promise not to mention crow or hawk in your columns again.

GEO. T. SNEAD.

Princess Anne Co., Va.

CHICKEN CHATTER.

Feed green food daily.

Overfeeding means death to poultry.

Keep the vessels and quarters clean.

Plenty of exercise often prevents feather pulling.

Brant and clover mixed is an excellent food for the fowls.

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WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known, Particulars of Experiments tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

SUBSCRIBERS failing to receive their paper promptly and regularly, will confer a favor by reporting the fact at once.

Address THE SOUTHERN PLANTER,
RICHMOND, VA.

Entered at the Post-office, Richmond, Va., as second-class matter.

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PUBLISHER'S NOTES.

TO ADVERTISERS.

We wish to impress upon our advertisers the necessity of having ALL advertisements, no matter whether new or change of copy, in our office by the 24th of each month. Advertising forms close on the 25th. We are compelled to leave a number of advertisements out of each issue because they are received too late.

TRIAL SUBSCRIPTIONS.

Hundreds of our regular subscribers tell us that "every farmer in the South should read the SOUTHERN PLANTER." We think so too. Especially when the cost is so trifling. But it is our experience that the cost has little or nothing to do with the matter. Every man, woman or child in this section can muster the necessary 50 cents. But a great number of farmers do not read *any* farm paper. How they farm without one, we do not know. These are the people we want to interest. If we once get them to reading the SOUTHERN PLANTER we have little trouble in keeping them at it. We are sure to give them their money's worth and a great deal more. If they are dissatisfied and tell us so, after reading the journal for a year, they can have their money back. Now isn't that a simple, straight, honest, store proposition?

Any person, not a subscriber, can have a three months' trial subscription for 10 cents. A good many hundreds ought to come in at this rate. The next three issues will be a fair sample of the yearly volume excepting our usual Holiday Number which is always worth the price of the entire year.

One-half of the whole number of sheep in the world are dipped in Cooper Dip year by year. The makers prove this by the amount of dip that leaves their factory and the number of sheep known to exist according to the official records.

Wood's Seeds.

Crimson Clover

Sown at the last working of the Corn or Cotton Crop, can be plowed under the following April or May in time to plant corn or other crops the same season. Crimson Clover prevents winter leaching of the soil, is equal in fertilizing value to a good application of stable manure and will wonderfully increase the yield and quality of corn or other crops which follow it. It also makes splendid winter and spring grazing, fine early green feed, or a good hay crop. Even if the crop is cut off, the action of the roots and stubble improve the land to a marked degree.

Write for price and special circular telling about seeding etc.

T. W. Wood & Sons, Seedsmen,
RICHMOND, - VIRGINIA.

Wood's Descriptive Fall Catalog, ready about August 1st, tells all about Farm and Vegetable Seeds for Fall planting. Mailed free on request.

AGRICULTURAL LIME

Send for Circulars and Price-List,
FELLSWORTH LIME WORKS,
REEVES CATT, Agent,
Staunton, Virginia.

AGRICULTURAL LIME

delivered anywhere between Lynchburg and Petersburg for \$3 per ton. Parties on the Southern Railway will please apply for rates.
T.O. SANDY, Burkeville, Va.

FRAZER

Axle Grease

Best in the world.

Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand. Not affected by heat. **Get the Genuine.**
FOR SALE BY ALL DEALERS.

SAN JOSE SCALE

and other INSECTS killed by
GOOD'S

Caustic Potash Whale-Oil Soap No. 3

Endorsed by U.S. Dept. of Agr. and State Experiment Stations. This soap is a Fertilizer as well as an insecticide. 50-lb. kegs, \$2.50; 100-lb. kegs, \$4.00; half barrel, 200-lb. 80¢ per lb.; barrel, 45¢ lb. 50¢. Send for Booklet.
JAMES GOOD, Original Maker,
959-11 N. Front Street, Philadelphia, Pa.

The Red Ripper HAY PRESS

Saves Time, Labor and Money.



THE RED RIPPER is the strongest, simplest and most durable hay press on the market; requires only one horse to operate; capacity, 15 to 20 full size bales (75 to 100 pounds) per hour. Costs less than any other good press and does more and better work than most presses costing five times as much.

Write for Free Illustrated Booklet.

SIKES MFG. CO., Helena, Ga.

BALE YOUR OWN HAY

MILLET SORGHUM PEAVINES ETC.

WITH A "HANDY" BALER

THE STRONGEST, MOST POWERFUL, SWIFTEST AND LIGHTEST OPERATING HAND PRESS EVER PUT ON THE MARKET.



MAKES ABSOLUTELY UNIFORM BALES STANDARD SIZE EITHER LIGHT OR HEAVY

LITTLE GIANT HAY PRESS CO. DALLAS, TEXAS.

WRITE FOR BOOK AND CATALOGUE HANDSOME POWER PRESS, ETC.

The Hay Baler

which is in a class by itself.



"ELI" PRESSES bales fastest and best for shipping and export. Largest Tread Openings. Simplest operation. No gears. No belts. Many features make it standard of the world. Write for catalogue. Collins Plow Co., 1185 Hampshire St., Quincy, Ill.

CHAMPION AND HAY PRESS

COMBINED GASOLINE ENGINE

At it for 30 years and right up-to-date. Presses of every style and for every purpose. If wanting a Baling Press write to FAMOUS MFG. CO. 722 RAILROAD AVE. EAST CHICAGO, IND.

BALES 15 TONS A DAY HAY



Our catalogue gives valuable pointers about Press construction and operation. Our 20 years' experience make the Green Valley Presses most durable, unexcelled and least expensive. Send money for book. GEO. ERTLE & CO., Quincy, Ill.

SILOS

And the only Patent Roof

THE "PHILADELPHIA"

E. F. SCHLICHTER

1910 Market St. PHILADELPHIA, PA.

Also made by the Duplex Manufacturing Co., South Superior, Wis.

WITH THE ADVERTISERS.

The Spangler Mfg. Co., York, Pa., start their Fall advertising campaign with an interesting card in another column. Their well known low down grain and fertilizer drill is the offering this month.

A choice Red Poll bull at a very reasonable price is offered by H. K. Foster, Blacksburg, Va.

Among the new ads in this number will be found that of the Safety Buggy Co., Richmond, Va. This company is the successor to the buggy department of Benj. T. Crump & Co. of the same city. Our readers are invited to call at the company's depository and inspect its 85 styles of vehicles before purchasing elsewhere.

Parties desiring a farm manager had better refer to the ad of "B" in another column.

H. A. S. Hamilton & Sons, Shadwell, Va., have an offering of choice "Hill Top" stock. This firm has made an enviable reputation and now that they have removed and have with them their same old stock, we have no doubt but what numerous old customers, as well as new, will look up their offering.

Italian bees and bee supplies can be had from J. E. Thomasson, Bumpass, Va.

The Stratton & Bragg Co., Petersburg, Va., resume the season's advertising with a half page ad elsewhere. In addition to handling all kind of hardware and farm implements, this company is special agent for Heebner & Sons' peanut pickers and threshers.

The Bullfield Farms, Doswell, Va., are offering 90 ewes and grade rams, also about 20 head of grade Shorthorn cattle. Look up the ad on another page.

Strawberry Hill Poultry Yards are new-comers in this issue. Eggs for hatching from aristocratic strains of birds can be had at very reasonable prices.

Fashionably bred Berkshires are offered by H. W. Fugate in another column. We invite the attention of our readers to the ad.

Lee's Prepared Agricultural Lime, Plain Oyster Shell Lime, No. 1 Wood Burnt Lime are offered by A. S. Lee & Son, Richmond, Va.

Samuel Halston, Wenona, Va., has an ad of his well known Oak Hill Farm. Farmers desiring pure bred stock at right prices should look up his ad.

The farm department of the V. P. I. is offering some choice Dorset rams. Agricultural Lime can be had of T. O. Sandy, Burkeville, Va. Finely bred Jerseys are offered by Woodside Farm.

Elizabeth College, Charlotte, N. C., has an attractive card in another column. Send for its handsome illustrated catalogue and prospectus.

L. G. Jones, breeder of Essex and Poland China pigs and Hampshire and Southdown sheep has an ad in



20th CENTURY Wagon Box and Rack

One of the most convenient, useful, and labor-saving articles ever offered to the farmer. Substantially made and finished from best materials. Malleable castings and very strong. When closed it is available for hauling corn, potatoes, wood, live stock, etc. By suspending canvas or muslin from top, inside, will hold 100 bushels of bulk grain.

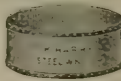
SIDES CAN BE LOWERED INSTANTLY

And it becomes a solid rack for hauling hay, straw, fodder, grain, wheat, etc., with ample strength and capacity for three tons. Very convenient for unloading with side lowered as shown in cut. Made 11 feet long and regular widths. Sold direct to farmers at manufacturers' prices, freight prepaid. Write for Catalogue and prices.

MODEL MFG. CO., Box 100, Muncie, Ind.



WAGON TANKS



STEEL TANKS, Plain and Corrugated.



STEEL ROOFING, ETC.

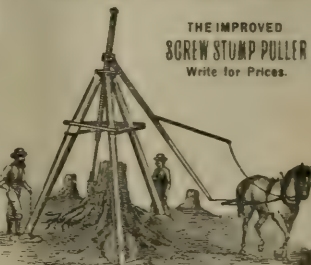


STEEL FENCING.

O. K. HARRY STEEL WORKS, 2333-5 Papia St. ST. LOUIS, MO.

THE IMPROVED SOREW STUMP PULLER

Write for Prices.



Chamberlin Mfg. Co., Olean, N. Y., U. S. A.

HERCULES STUMP PULLER



Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centerville, Iowa.

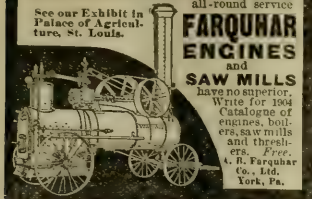
GINSENG & RAW FURS

Wanted; full value for your goods. Write for price lists. Address H. C. METCALF, Alstead, N. H.

Built for Business

Farquhar engines and boilers are built for hard knocks and durability on the road as well as at work. They have every improvement that experience has shown to be of value. For general all-round service.

See our Exhibit in
Palace of Agriculture,
St. Louis.



**FARQUHAR
ENGINES**

and
SAW MILLS
have no superior.
Write for 1904
Catalogue of
engines, boil-
ers, saw mills
and thresh-
ers. Free,
4, N. Farquhar
Co., Ltd.,
York, Pa.

DE LOACH PAT.

Variable Friction Feed



Save Power and Repairs. Make Smooth Lumber. Suited to 4 H. P. up for the farmer or the lumber man. Also shingle Mills, Lath Mills, Buhr Mills, Planers and Hay Presses. Catalog FREE.

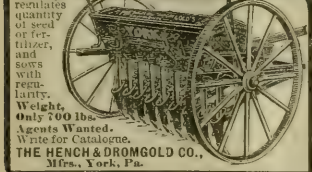
DE LOACH PAT.



TRIPLEX HAY BALER. SELF-FEEDER. LOW IN PRICE For Hand, Horse or Belt Power. Leverage 40 to 1. Baler quicker, easier and more solid than any other. Also Grinding Mills, Water Wheels, Etc. 120 LIBERTY ST. DE LOACH MILL MFG. CO. NEW YORK. Box 600 Atlanta, Ga. ST. LOUIS

GRAIN DRILL and FERTILIZER

The YORK FORCE FEED DRILL combines lightness with strength. Most complete drill made. No counter gears to get out of order. Boxes are easy to ground. Fully Guaranteed.



Agents Wanted. Write for Catalogue. THE HENCH & DROMGOLD CO., 315 W. 10th St., St. Louis, Mo.

SPANGLER DRILL



SPANGLER MFG. CO., 804 Queen Street, York, Pa.

WANTED

FARM HAND. Married man. For garden, milking, and general work on small farm. Pay \$20 per month and 4 room house, and wood free. Apply by letter, giving references, to "A. B. C." Greenwood Depot, Albemarle county, Va. Rejected applications will not be acknowledged.

this issue. Satisfaction to every customer is his motto.

The Smith Endless Apron Manure Spreader is advertised in this issue.

Always mention the SOUTHERN PLANTER when corresponding with advertisers.

MAGAZINES.

The Century for July is primarily, but by no means wholly, a fiction number.

The opening article by Sylvester Baxter describes "The New West Point" as it is to be, with impressive drawings, done under the supervision of the architects, one of which, printed in color, is a frontispiece. This article will be a revelation to the public of the superb picturesque and monumental character of the constructions now under way.

The Far East comes in for special attention: the theatre of war is described in an illustrated paper on "Manchuria," written by the present United States Consul at An-Tung, Mr. James W. Davidson, from a special trip of inspection made last fall; the Japanese Constitution is the subject of a paper by one of its four framers, Baron Kaneko (a Harvard LL. D.), under the title "The Magna Charta of Japan," and Andrew D. White contributes a paper of recollections of "Russia in War Time," recording his humorous and stirring experiences as attaché at St. Petersburg during the Crimean War.

Henry R. Elliot under the title "The Most Popular Book in the World" gives curious facts concerning the publication and distribution of the Bible. Apropos of St. John's Eve (June 23) Maud Howe writes of "The Evil Eye and Witches' Night in Rome." Charles de Kay describes "An Important Art Treasure of New York," namely, the Etruscan chariot recently acquired for the Metropolitan Museum, an object of special interest to visitors to New York.

The fiction, nearly all of which is illustrated, includes further installments of Dr. Weir Mitchell's piquant and daring "The Youth of Washington," told in the form of an autobiography, and Jack London's vivid and adventurous "The Sea-Wolf." The nine complete tales are "The White Feather," by Margaret Deland, with a literary setting and a novel motive; "The Heart-Breakers," a flirtation story by Bertha Runkle, author of "The Helmet of Navarre;" "Miss Clegg's Adopted," by Anne Warner, a humorous rural sketch by the author of "The Marrying of Susan Clegg;" "The Ancestry of Irene," another story of the Nevada Madigans, by Miriam Michelson—in which a romantic young girl is seen in search of a father; "The Conspiracy of Krass," by Robert Haven Schaffer—a tale of hypnotism; "Miss Nigger," by Rose Young, a story of a white child and a nurse, and their superstitions; "Floyd

YOU Can Save a Lot of Work!
Can Save a Lot of Money!
Can Increase Your Comfort!
Can Increase Your Profit!

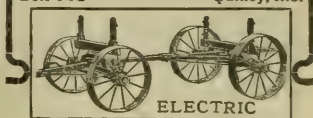


If you are interested in these things we'll like to send you our new book about

ELECTRIC STEEL
and the
ELECTRIC Handy Wagon

More than a million and a quarter of them are in use and several hundred thousand farmers say that they are the best investment they ever made. They'll save you more money, more work, give better service and greater satisfaction than any other metal wheel made—because **They're Made Better**. By every test they are the best. Spokes united to the hub. If they work loose, your money back. Don't buy wheels nor wagons until you read our book. It may save you many dollars and it's free.

ELECTRIC WHEEL CO.,
Box 146 Quincy, Ills.

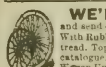


BUGGIES

SURRIES,
DAYTONS,
RUNABOUTS.



SPINDLE WAGONS, CARTS, etc. 85 different styles and grades. Finest material and workmanship. Get our prices and see our vehicles before purchasing. **SAFETY BUGGY CO.,** 1309 E. Main street, Richmond, Va.



WE'LL PAY THE FREIGHT and send 4 Buggy Wheels, Steel Tire on, - \$7.25 With Rubber Tires, \$15.00. Light wheels \$10.40. Road, Top Buggies, \$2-15; Harness \$3.00. Write for catalogue. Learn how to buy vehicles and parts direct. **Wagon Umbrella FREE.** W. T. 1500B, Cincinnati, O.

Make Your Own Fertilizer



at Small Cost with
Wilson's Phosphate Mills

From 1 to 40 H. P. Also Bone Cutters, Lard and Tallow, for the poultrymen; Farm Feed Mills, Grain Hammer Flour Mills, Split and Shell Mills. Send for catalogue. **WILSON BROS.,** Sole Mfrs., Easton, Pa.



WARRINER'S CHAIN HANGING STANCHION
CLEAN, SAFE, DURABLE AND COMFORTABLE.
WALLACE B. CRUMB, FORESTVILLE, CONN.
P. O. BOX 441

Clark's Tools for Large Hay Crops

Clark's Rev. Bush Plow and Harrow cuts a track 5 ft. wide, 1 ft. deep. Connects the subsoil water. It is an excellent machine for covering in sugar cane. Strength guaranteed. Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.

Clark's Double Action Cutaway Harrow moves 15,000 tons of earth in a day. Send for Circulars.

Clark's Rev. Sulky Disc Plow
Made single or double. One or two furrows five to ten inches deep; 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charrack, hardhack, sundowner, milk weed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seeding to grass.

THE CUTAWAY HARROW CO.,
Higginnum, Ct., U. S. A.

Imperial Pulverizer, Clod

Crusher and Roller
Leads them All.

Send for Circulars **The Peterson Mfg. Co.** Kent, Ohio.

RIFE HYDRAULIC ENGINE
Water By Water Power.
The pump that never stops. Raises water to any height, needs no batteries, costs nothing to run. You can buy a Rife on 30 days free trial. Ask for our free catalog.
RIFE ENGINE CO.
126 Liberty St., New York.

Water Problem Solved.

The Koger Well Drilling Machine gets it. The farmers' friend. Especially for domestic well making. Cheapest by half and the most practical of any. Best money maker on the market. Catalogue free.
J. J. KOGER & SONS,
Mooreburg, Tenn.

The Best Power
after all is steam power. The best example is here shown in our
LEFFEL ENGINES
with Stationary Tubular Boiler
This outfit contains all the Leffel superiority and efficiency. Easy steamers, little fuel, easy handling, always in order, long lived, safe, etc. This style made in to 40 H. P. Many other styles of engines and boilers for all purposes. Get free book "Power Economy and Efficiency."
ASHTON STARKE
Bo. Sales Agt. Richmond, Va. Springfield, Ohio.

and the Archduchess," a romantic tale by Olivia Howard Dunbar; "In the Nature of a Hero," a fire department story by Harvey J. O'Higgins, and "The Rich Widow of Spanish Town," a sketch of California, by Gouverneur Morris.

The unique feature of the July St. Nicholas is the beginning of a serial story for boys, translated from the Japanese for St. Nicholas, and written by one of Japan's most popular novelists, Gensai Mural. The story, which will run through several numbers, is entitled "Kibun Daizin"; or, From Shark-Bay to Merchant Prince, and is founded upon the life of Bunzayemon Kinokuniya, a Japanese merchant of the eighteenth century, whose pluck, wisdom and enterprising spirit made him one of the most prosperous and respected men of the time. The opening chapters are attractively illustrated by Varian.

This July issue of St. Nicholas is a patriotic number, and the Fourth of July spirit has been well carried out in story, rhymes and pictures. "A Day with Hudson Maxim" is a timely and interesting account, by Joseph H. Adams, of the city home of this noted American inventor and of his work.

The July number of Lippincott's Magazine is fertile in fiction for lazy days. Its opening pages are covered by "The Love Affair of a Princess," by Lafayette McLaws, a rushing romance filled with gallantry, love, and life at a quick pace.

Following the novelette there are nine stories of varying lengths and subjects: Elizabeth Duer contributes a most engaging one called "The Court of Pan." Edward Boltwood's story, "The Lazzarparola," is the very cleverest and most amusing cow-boy episode which has appeared in print. A good summer story by Cyrus Townsend Brady, entitled "The Baby Goes A-Fishing," is suspected of being a bit of personal reminiscence. Bertha H. Lippincott, the author of "Chevrone," writes an entertaining tale of the right man at the wrong dinner-table, and an out-of-the-common point is made by the debutante winning out with a rival widow. Something new about the finding of "Moses" is told by Ella Middleton Tybout under the title of "Moses, Jr." It is bright and humorous. A sweet background for the livelier themes is a story by Mabel Nelson Thurston called "The Emancipation of Lydia Duroe," which is delightful in its faithfulness to human nature. "A Thread of Scarlet," by Jennette Lee, sounds the single note of tragedy in the whole number. "A Delayed Heritage" appeals to everybody who has wanted one thing very much for a long time—and at last grasps the dear desire. Its author is Eleanor H. Porter. A new sort of ghost-story is that by Bertha M. Bower, entitled "The Ghost in the Red Shirt." Its underlying love accompaniment is captivating.

George Moore's "Moods and Memo-

UNION LOCK POULTRY FENCING



HAS BEEN FULLY TESTED AND FOUND SUPERIOR TO ALL OTHERS.

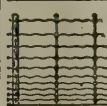
Will fit uneven ground without cutting. Every part can be stretched perfectly. Made of high grade galvanized steel wire. All horizontal lines are cables, making it stronger. Has fine mesh at the bottom for small chicks. We also make extra heavy for gardens, lawns, etc. The largest poultry farms are using this fence—over 700 rods by Lakewood (N. J.) Farm Co. We pay freight and satisfy every one or no sale. Can ship from N. Y., Chicago, or San Francisco. Write for free catalog of Farm, Lawn and Poultry Fencing.

CASE BROS., Box 340, Colchester, Conn.



WIRE • FENCE

Heavy lateral wires, heavy hard steel stays, cold spring wire, Sure Grip Lock. In strength, appearance and durability, the Hard Steel can not be excelled. Write for catalogue and prices. THE HARD STEEL FENCE CO., Cuyahoga Falls, O.



Genuine Spiral Spring Wire FENCES AND GATES

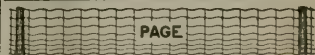
If your dealer does not have out goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency

INTERNATIONAL FENCE AND F. CO.
Columbus, Ohio.



LAWN FENCE

Many designs. Cheap at wholesale. See Catalogue Free. Special Prices to Gentlemen and Churches. Address COLLEGE SPRING FENCE CO., Box Q, Winchester, Ind.



GOOD BED SPRINGS

are made of the same wire as Pace Fences. Page Woven Wire Fence Co., Box 57, Adrian, Mich.

DOW FARM FENCE
PRICE AND QUALITY
WRITE US NOW.
DOW WIRE WORKS—LOUISVILLE, KY.

FENCE! STRONGEST MADE. Ball strong. Chicken tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COLLEGE SPRING FENCE CO., Box 55, Winchester, Indiana, U. S. A.

BLUE FLAME

Imperial Oil Cook Stoves.

Wood and Coal Cook Stoves at Factory prices. I am agent for all the best makes. Price, from 38c. to \$25. Everything in Hardware, Sash, Doors, Blinds, Iron and Tin Roofing, Carriage Goods, Nails, etc. CARBON ROOF PAINT, stops leaks, guaranteed for five years. Price only 50c. gal. Write us for anything you want. We have it. HARRIS, "The Hardwareman," 409 E. Broad street, Richmond, Va.

Mention the SOUTHERN PLANTER in writing.

Are you fond of your face? If so, use Williams' Shaving Soap.

Sold everywhere. Free trial sample for 2-cent stamp to pay postage.

Write for booklet "How to Shave."

The J. B. Williams Co., Glastonbury, Ct.

CELERY Plants, VERY STOCKY. All plants are grown in rows 9 inches apart. Plants average an inch apart in the row, from imported seed. Golden Self Blanching, Giant Pascal; Golden Heart, White Plume, \$1.50 per 1,000; 90c per 500.

CABBAGE Plants \$1.00 per 1,000; \$7.50 per 10,000; 70c per 500. Strong, stocky; lute, Danish Bullhead. Sure head, Stone Mason, All Seasons, Flat Dutch. F. W. ROCHELLE, Drawer 6, Chester, N. J.

Diggs & Beadles, Reliable Seeds

For The Farm and Garden,

German Clover, Millets, Rape, Buckwheat, Sorghums, Seed Potatoes, NEW CROP Turnip Seeds, and all seeds of the highest quality. Write us for samples and quotations. Mail orders given prompt attention. Write for our Catalog.

DIGGS & BEADLES,

1709 E. Franklin St., Richmond, Va.

Italian Bees.

The kind that do the hustling. Guaranteed to work on Red Clover. Spring Colonies furnished at \$5 each f. o. b. cars here. In your choice of Root or Dazzenbaker hives. The best comb honey hive on earth. Also Root's hives and supplies at Retail prices. Catalogue for the asking. Write me anything you wish to know about bees and their management.

J. E. THOMASSON,
Bumpass, Va.

FARMERS

THE FOUNTAIN SHOCK BINDER is used and recommended on the Test Farms of the United States, Virginia, North Carolina, and Illinois. It is a strong windlass, weighing three pounds. Saves labor. Prevents shocks falling. Keeps shocks dry inside. Sent by express prepaid for \$1.50. Write for free circular with testimonials and directions for cutting and shocking corn. Agents wanted. FOUNTAIN SHOCK BINDER CO., Christie, Va.

...WILL EXCHANGE...

Eclipse Hand Separator,

As good as new, and doing perfect work, for a Red Poll, Shorthorn or Angus Heifer calf. Apply to GEO. W. BRYAN, Scotland Neck, N. C.

ries," Parts III., IV., and V., are no less charming than last month's. The pathetic incident of a little Irish waitress at a Paris cafe reads like fiction.

The poems this month are by Florence Earle Coates, Richard Kirk, Aloysius Coll, S. R. Elliott, Ella Heath, Francis Halley Newton, and Emma P. Seabury.

Visitors to the St. Louis Exposition will want the July Woman's Home Companion because it is such an interesting souvenir of the fair. Frederick Smith tells of "A Little Journey Round the St. Louis Fair" and about adventures on The Pike, while Arthur Hoyt describes the opening day. A feature of especial timeliness is "Celebrating the Fourth of July in Uncle Sam's New Possessions." The pictorial features are the "Wash-Day of All Nations" and "Sports on an Ocean-Liner." The Editors announce that Margaret E. Sangster, so dear to the hearts of all American girls, will henceforth conduct a department for women in the Woman's Home Companion. There is plenty of lively midsummer fiction, and many of Miss Gould's excellent fashion suggestions. Published by The Crowell Publishing Company, Springfield, Ohio; one dollar a year; ten cents a copy.

Following the plan which St. Nicholas has carried out for several months, the July issue has an instructive article designed to present valuable facts in a way entertaining to both young and old. "A Day with Hudson Maxim" is the title of Joseph H. Adams' sketch, which will tell many interesting details of the great inventor's life and work. Hudson Maxim's residence is in Brooklyn, where a visitor finds him as much at home among his high explosives as his cook is in her kitchen. Mr. Adams tells, among other things, of being invited to lunch on Welsh rare-bit cooked in a chafing-dish over a lamp filled with—not alcohol but nitroglycerin.

AMERICAN BOY DAY AT THE ST. LOUIS EXPOSITION.

The St. Louis Exposition management wisely determined to recognize American boys by setting apart a special day for them at the Exposition. The day selected is July 5th, and the program and arrangements for the day are in the hands of William C. Sprague, editor of The American Boy, of Detroit. The program includes athletics contests in the stadium between the boys of the public schools, in which public school teams are entered from Chicago, New York and other cities, and opportunities will be given for individual entries. From 2:30 to 4:30 in the afternoon public exercises will be held in Festival Hall, the central attraction of the grounds. It is expected that three thousand boys will take part in a unique programme, consisting of orations, recitations, music, etc., by talented boys from various parts of the country, the reading of messages from

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No. 36.—275 acre farm in Fairfax. Fine quality of grain and grass land. Good buildings. Refined and educated citizens. Price, \$7,000.

See April and May issue of **SOUTHERN PLANTER** for description of the above farms, and write for my farm list and full information.

W. E. MILLER,
HERNDON, VA.

President Roosevelt and the governors of all the States and territories, music by one of the Exposition bands, and by Professor H. B. Roney, who will preside at the great organ—the largest in the world. Three thousand boys will be heard in chorus singing patriotic songs. There will be an address of welcome by President Francis, a response by an 11-year-old boy, and a salute to the flag. Prizes will be awarded to boys competing in the contest for the best poem on the subject, "The American Boy," and the best song that can be sung to the tune America. At 4:30 o'clock the boys will form in procession and march to the Pennsylvania building, where they will pay their respects to the old Liberty Bell, and a 10-year-old boy will crown the bell with a floral offering on behalf of the boys of America. At 5:30 o'clock a reception will be given the boys in the Michigan building. It is fair to say that every boy in the country who can be at the fair on July 5th will try to be there, as the occasion will be one long to be remembered.

CATALOGUES.

Elizabeth College for Women, Charlotte, N. C., 7th annual catalogue with announcements for 1904-1905. This is a finely illustrated catalogue of an excellent institution with a fine staff of professors and teachers.

Air-cooled power and pumping engine, for gasoline or gas, Chas. G. Blatchley, Swanson Street, Philadelphia, Pa.

Standard Hydraulic Pump Co., Shenandoah Avenue, Roanoke, Va.

We acknowledge with thanks receipt of invitation to attend the laying of the cornerstone of the Auditorium group of buildings at Oread, Md., the great institution now being established there on a farm of 2,000 acres where girls and women will be taught domestic science and boys and men agriculture, industrial arts and commerce. The motto of the institution is "We learn to do by doing." President Perky has devoted a large fortune to the establishment and support of this unique institution.

PAMPHLETS.

Holstein-Friesian Cattle. Salient points of their history and characteristics and of their development and registration under the rules of the Holstein-Friesian Association of America. S. Hoxie, Compiler and Publisher, Yorkville, N. Y.

SOUVENIRS OF W. A. WOOD MACHINES.

The W. A. Wood M. & R. Machine Co., of Hoosick Falls, N. Y., send us a couple of souvenirs which they are distributing at the World's Fair. One is a beautiful pamphlet, an artistic fac simile of their Paris Gold Medal, and the other a gilded medal souvenir of the St. Louis Fair.

THE OAKS FOR SALE.

Being advised by my physician to seek a drier climate on account of my wife's health, I offer "The Oaks" for sale; situated 1-2 mile from depot on main line of N. & W. R. R., 1-4 mile from corporation limits, and contains 145 1-2 acres; dwelling house has six rooms and pantry; situated on an elevation commanding a fine view of the Peaks of Otter (12 miles), town and surrounding country; and surrounded by a magnificent grove of stately oaks, about 10 acres in original growth of large oaks. Land is gently rolling, most of it in grass; three elegant never failing springs, one very bold; plenty of fruit for home use; there is also a 2-room tenant house and large barn and corn crib. There are about 45 acres well set in Clover, Timothy, Alfalfa and Alfalfa, (about 4 acres in Alfalfa); half of it two years old; cut it five times last year and it now, 10th of May, stands 12 inches, after being frozen down 1st of April. This is strictly Alfalfa land and there are 25 acres that will be ready to seed to Alfalfa this summer; 40 acres seeded to Alfalfa will be worth more than I ask for the whole farm, as hay is now selling here for \$18.00 per ton and has not been less than \$14.00 for two years. There are 7 acres in wheat; 16 in rye; 1 1-2 in oats; 34 in corn, and 4 in peas and sorghum. Will sell the place as a whole or in two tracts. Would say to any purchaser that if he comes and looks at the place and finds it not as represented I will pay his railroad fare.

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200 ACRE

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••• VIRGINIA FARMS •••
Nice little poultry farm, 100 acres, good house and orchard, \$20,000. Blue Grass, Stock and Fruit Farms. Address PORTER & GATES, Louisa, Va.

REPORTS.

U. S. Department of Agriculture, Washington, D. C. Year book of the Department of Agriculture 1903. This is one of the best year books ever got out by the Department and is a perfect mine of facts and information useful to farmers. Ask your Congressman or Senator to send you a copy. The Department has barely sufficient for its correspondents. Nearly the whole issue goes to Congressmen and Senators. Report No. 77. Alfalfa and beef production in Argentina.

Report 78. An enemy of the Cotton Boll Weevil.

Bureau of Forestry. Bulletin 50. Cross-tie forms and rail fastenings with special reference to treated timbers.

Some results of investigations in soil management.

Statistical matter relating to principal crops and farm animals, freight rates, exports, etc., of the U. S.

Farmers' Bulletin No. 196. Usefulness of the American toad.

Farmers' Bulletin No. 197. Importation of game birds and eggs for propagation.

Idaho Experiment Station, Moscow, Id. Bulletin 41. Grasshopper and cricket outbreaks.

Kansas Experiment Station, Manhattan, Kas. Bulletin 123. Crop experiments in 1903.

Maryland State Horticultural Society, J. B. S. Norton, Secretary, College Park, Md. Report for the year 1903.

Michigan Experiment Station, Agricultural College, Mich. Bulletin 211. Breakfast foods.

Bulletin 212. Seed testing for farmers.

Nebraska Experiment Station, Lincoln, Neb. Bulletin 84. Pasture meadow and forage crops.

New Mexico Experiment Station, Mesilla Park, N. M. Bulletin 50. Steer and lamb feeding.

New York Experiment Station, Geneva, N. Y. Bulletin 252. Analyses of commercial fertilizers.

Rhode Island Experiment Station, Kingston, R. I. Sixteenth annual report.

South Carolina Experiment Station, Clemson College, S. C. Bulletin 83. Results of practical experiments with peach borer.

Bulletin 84. One horse farm.

Bulletin 85. Commercial fertilizers.

Bulletin 86. Tobacco culture in South Carolina.

Bulletin 87. Analyses of commercial fertilizers.

Tennessee Experiment Station, Knoxville, Tenn. Vol. XVII No. 2. Increasing the yield of corn.

Virginia State Crop Pest Commission, Blacksburg, Va. Circular to nurserymen, May, 1904.

Circular relating to fumigation of nursery stock, June, 1904.

HOMES AND THE PLACE TO FIND THEM.

No place in the United States can a man do so well at farming, for the money invested, as in Virginia. Lands are cheap; climate good, and the best of markets close at hand. It is the State of all others, for a comfortable all the year round home. The James River Valley Colonization and Improvement Company offer superior advantages to land purchasers. For free 36 page land pamphlet, address

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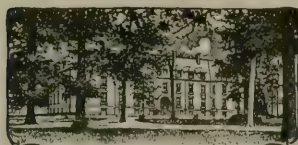
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A neat Binder for your back num-
bers can be had for 25 cents. Address
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WASHINGTON NOTES.

Secretary Wilson is a strong friend
of the American beet. He has great
faith in the sugar beet as a sugar
proposition and as an adjunct to both
the live stock and dairy industries.
The ordinary beet sugar factory is
enormously expensive, costing from
half a million dollars up, and the ques-
tion of getting the beet pulp, after the
sugar is extracted, back to the farm to
be utilized as stock feed is a serious
one. In probably the majority of
cases it cannot be done economically.
Many of the beets are shipped into the
big factories from far distant farms,
some of them a hundred miles away
and it is obviously impracticable to
ship the pulp back for feed. But the
Secretary's beet sugar experts are
looking into the feasibility of estab-
lishing numerous small plants at a
cost of a comparatively few thousand
dollars in which the preliminary pro-
cess of sugar extraction can be accom-
plished, in other words, where crude
beet sugar can be made. If his idea
can be worked out in practice it will
mean a wonderful advance in both
American sugar making and cattle
feeding.

"For instance," said he, "if they
could have one big refining factory in
the middle of the State of Iowa and
then a great number of small plants
throughout the State to reduce the
beets to crude sugar it would enable
the farmers to utilize their pulp to
great advantage and would tremen-
dously stimulate sugar beet growing.

"Another thing, these great fac-
tries, as they are operated now, can
make sugar for only a few months
each year; then they must shut down
until the next crop, during which pe-
riod a large investment of capital is
idle. If the little factories can do the
work of raw manufacturing, the big
refinery can be run the year around
as the capacity of the refinery will be
regulated according to the output of
the small plants. With the small
plants well distributed the beet pulp
could all be utilized for stock feed; it
can be kept in silos as well as can corn
fodder or other green feed. Have you
seen our late bulletin on beet pulp?"

"Yes," I answered, though I did not
admit that I had not read it.

"Well, that tells you all about the
value of beet pulp. But this other mat-
ter is just an idea. There is nothing
to say about it. I am just starting
some inquiries."

All of which is very modest in Mr.
Wilson, but it is this sort of initiative
effort which has brought the Amer-
ican Department of Agriculture into
worldwide prominence and has made it
the foremost agricultural bureau of
the globe.

"The most we are doing now in
beets," he continued, "is in growing
beet seed. We must grow all our own
seed in this country. We will keep
home half a million dollars a year and
we will have better seed. We can

Kills 'em Quick



Magic Death Powder

NOT A POISON, but a remarkable discov-
ery which is very effective in causing stupe-
faction and death to all kinds of insects in-
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Put up in a box ingeniously arranged for
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next 30 days. Rid your Chickens of Lice,
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on your poultry and stock with Gib-
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no dusting; prominent farmers and poul-
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Dipping Tanks at cost.

Send for Pamphlet to Chicago.

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Walnut Wanted.

I pay cash for black walnut tree forks or
crotches; should be dry and none or very
little worm eaten. Let me know what you
have, many or few. Might buy stumps if
well trimmed down. I pay freight. HYDE,
Box 681, Richmond, Va.

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for the soft bunches—Paste for the hard ones. A 45-minute application and the lamenesses grow. Lots of blemish information in the free book we send.

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You had better get in line if you want something fine, for sure there is nothing better than a high bred English Setter. Now booking orders for the best bred pups in America. Home of the most fashionable strains of Hunting dogs, Poultry and Stock. The Cedars P. & S. Farm, WM. G. OWENS, Midlothian, Va.

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A beautiful litter of sables and blacks, full white marks. Bred strong in blood of Christopher, Barwell Mystery, and Doon Marvel. Sire and dam grand drivers, great workers. Pups now ready at \$10 and \$8. Eligible to registry. Get photos. H. B. ARBUCKLE, Maxwellton, Va.

POINTER PUPS.

for sale. I have a few well bred ones, 6 weeks old; males, \$10; females, \$5. Write for particulars. C. H. FLEMING, Highland Park, Richmond, Va.

ARCADIA FARM.

COLLIES FOR SALE

1 dog and 2 bitches, 2 and 3 years old, respectively; sable and white, all registered; markings and blood of the best strains. Selling them to prevent inbreeding. E. M. BALL, Emory, Va.

grow the best beet seed in the world, as we grow the best beets."

"Better even than the German seed of the long unpronounceable name?"

"O yes, far better. We can grow better beets in America, richer in sugar, and bigger tonnage per acre; American farmers have grown beets with 28 per cent. saccharine, and 38 tons per acre. The question now lies with the farmers. The average yield is far too low—8 tons per acre. Our people must grow more tonnage. If we can grow an average of 15 tons per acre we will not then need any protective tariff—15 tons an acre and 18 per cent. sugar. That will beat the world."

"Even the Philippines, where they can grow sugar for a cent a pound?"

"Yes, we can even let the bars down for the Philippines, and that is coming sometime, surely coming. The advantage which the farmers of our temperate zone will have over the Philippines, or Cuba or Hawaii is that while their soil fertility will decrease with a constant planting to a single crop, our farmers will diversify their crops and thus keep up the fertility of their soil. Why even in Hawaii, now, they are needing to use fertilizer very largely. They have to send to Chile for nitrogen, to Florida for phosphate and to Germany for potash and they have to take over coal from British Columbia to pump water for irrigation. Then the question of transportation from these countries is an item."

"How much of fact is there in the statement made by the opponents of the beet sugar industry that the American farmer will never make a successful beet grower, that he will not get down on his hands and knees nor permit his wife and children to do so to tend the beet plants the way the foreign growers do?"

"Nothing. Our early growers made a blunder. They tried to cultivate beets with the hoe. They imported Europeans and had their beet crops hoed and weeded by hand. The hoe does not cultivate deep enough. After the planting and the thinning, everything should be done with the horse cultivator."

The Bureau of Animal Industry has prepared a short statement describing an important discovery and treatment for milk fever in cows, which as a matter of fact the author, Dr. John R. Mohler, says is not a fever at all. This affection of the udder which attacks old nursing cows has heretofore yielded in only about 60 cases out of a hundred to what is known as the iodine treatment. The new treatment is simply injecting sterilized air into the udder, an extremely simple and inexpensive operation, but which proves successful in 97 per cent. of the cases treated. It has been extensively practiced by the manager of the Biltmore estate and is in general usage in the Island of Jersey.

The Congressional resolution to print 100,000 "horse books" fell by the



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A safe, speedy and
positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of **Caustic Balsam** sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
THE LA WARRNER-WILLIAMS COMPANY, Cleveland, Ohio.



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For every horse, cow, hog or sheep, and the only remedy which they take voluntarily and relish.

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is the best stock remedy made in testing the formula of a celebrated veterinarian and being so pleasant to take, on account of the salt taste, does away with all trouble of dosing, drenching and mixing with feed. It is unequaled as a blood purifier, order of digestion and general system regulator. Thousands endorse it.

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NEWTON'S Horse, Cough, Diarrhea and Indigestion Cure. A veterinary specific for colds, coughs, and stomach troubles. Strongly recommended. \$1.00 per can. Dealers, Major E. C. Ford, Toledo, Ohio.

No More Blind Horses For Specific Ophthalmia, sore eyes, Barry Co., Iowa City, Ia., have a sure cure.

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MAPLEMON STOCK FARM, South Athol, Mass.

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EGGS for HATCHING.

75c. Per Sitting of 15.

Light Brahmas, Black Minorcas,
S. L. Wyandottes, Barred and W. Rocks, Brown Leghorns S. and R. C; White Leghorns S. C.

A few more Leghorn and Minorca Cockerels left. J. B. JOHNSON, Manassas, Va. CLOVER HILL FARM.

CHOICE



FOR
HATCHING.

Of 40 Varieties Best Poultry. Fine, large illustrated descriptive Poultry Book postpaid, only 6c. Price list FREE. Write now. JOHN E. HEATWOLE, Prop. Valley Poultry Farms, Harrisonburg, Va.

WALSH'S

Barred Plymouth Rocks

High class combination utility and exhibition stock. Best blood. Breed from prolific layers of large brown eggs. Eggs, \$1.50 per 15.

Box 194.

L. W. WALSH,
Lynchburg, Va.



EGGS for HATCHING

STRAWBERRY HILL POULTRY YARDS—B. P. Rocks, S. C. B. Leghorns, \$1.00 for 15.

Genuine Aristocrats
Taken at prize throughout State

Box 287, Richmond, Va.

BARGAINS

for months June and July. WHITE WYANDOTTE eggs \$8, 3.00 per 100.

EDGE MONT POULTRY YARDS,
JOHN A. REEDY, Prop. Liberty Mills, Va.

ANGORA GOATS are handsome, hardy and profitable. For large circular address E. W. COLE & CO., Big Clifty, Ky.

wayside last session of Congress and the consequence is that the Department of Agriculture has received hundreds of requests for this bulletin which it cannot meet, the Department's own funds available for its publication having been exhausted.

The government horse book and the cow book appear to be in wide demand among farmers. These volumes are obtainable only from Congressmen and Senators. "We have had to refuse thousands of requests for these books," said Mr. G. F. Thompson, the editor of the Bureau of Animal Industry. "I presume if we had them we could dispose of a hundred thousand copies of each a year. They seem to be extensively read."

The cow book is now being revised and enlarged by the Bureau, prior to the publication of another edition.

Some of the State Experiment stations are issuing their annual bulletins containing spraying formulae. For spraying certain annual crops it may not be too late to begin, though it should be remembered that spraying against fungous diseases of fruit is a preventive treatment and not a remedy and that the application of Bordeaux mixture, etc., should have been made much earlier in the season. Of course spraying to kill insects, such as the potato beetles and plant lice is not necessary until the pests make their appearance. If there are no State agricultural publications obtainable on this subject, the Department of Agriculture has a comprehensive farmers' bulletin which will be supplied any farmer on application.

From the experiment station report of the Department of Agriculture it is learned that German experiments have been made upon cerebro-spinal meningitis in horses, due to certain microorganisms. These were destroyed by the subjection of the bacilli to a temperature of 146 F. It must thus be inferred that horses if sufficiently parboiled can be cured of this dangerous disease.

Consul-General Guenther to Germany reports the following figures of government aid to agriculture:

Russia	\$24,000,000
France, Australia and Hungary (each)	8,500,000
United States	6,000,000
Japan	2,500,000

In proportion to the area of cultivated soil Austria pays the highest amount followed by Hungary, then France, then Russia, then the United States. Mr. Guenther does not mention the proportion paid by Japan which is evidently much larger than that of the United States, since only about twenty-five per cent. of Japan's area is cultivatable. Japan's total area is about the same as that of Montana.

The exports of bread stuffs for the fiscal year ending the first of July will be the smallest for many years. For the eleven months ended June first

PIT GAMES

Black Devils and Red Cubans.

Where they won, Sharon, N. Y., 4 out of 5. Blue Rock, Pa., 2 out of 3. Clarion, Pa., 5 straight. Roanoke, Va., 8 out of 9. Akron, Ia., 2 straights. Eggs, \$2 per sitting. Young trio, quality size, \$3.

THOS. W. JARMAN, Yancey Mills, Va.

Piedmont Poultry Place,

"Handles nothing but the best."

We now offer Pure-bred POLAND-CHINA Pigs for sale. We will not sell under 8 weeks old. Single pig \$6; per pair \$10; per trio, \$14. Some ready for shipment May 15th. First orders get best pigs.

Miss E. Caffie Giles, Prop.,
Whittles Depot, Va.

Meadow Brook

SHROPSHIRE.

For sale; very fine one and two year old pure bred SHROPSHIRE BUCKS; some very nice ewe lambs. C. A. SAUNDERS, Meadow Brook Stock Farm, Culpeper, Va.

HAMPSHIRE DOWN

SHEEP

We have sold all of our 1 and 2 year old Hampshire Rams, but have a GRAND LOT OF LAMBS for next year's trade. MEADOW BROOK FARM, J. D. THOMAS, Round Hill, Va.

DORSET RAM

for sale at a sacrifice, if taken at once; is registered, and his breeding and individuality are the best. ELKTON STOCK FARM, Forest Depot, Va.

DORSETS AND

HEREFORDS

H. ARMSTRONG, Lantz Mills, Va.

Woodland Farm

offers the best lot of October dropped Dorset Ram lambs which it has ever raised.

J. E. WING & BROS., Mechanicsburg, O.

V. P. I.

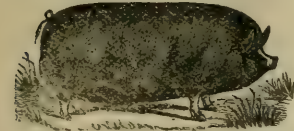
Farm Bulletin

We have for sale at present, some splendid DORSET RAM LAMBS.

For prices, etc. address

D. O. NOURSE, Prof. of Agr.
Blacksburg, Va.

Berkshire Hogs!



Sires in service, **Rockland Majestic of New Era**; his sire **Rockland Gentry**, champion of America in 1903; grand sire, **Baron Lee IV**, Model Lee IX, sire **Gov. Lee**, champion of America in 1889. Sows of **EQUALLY NOTED** Strains. A few nice pigs for sale. Write for prices.

JNO. CALHOUN, Cllo, S. C.

BERKSHIRE PIGS

FOR SALE

We have on our Hollybrook Farm a fine lot of young Berkshire Pigs from 8 to 12 weeks old, for sale. These pigs are from registered stock, and are first-class in every respect. Our pigs have free range, with fine stream of running water through the hog pastures, and our stock is as vigorous and healthy as possible. Price either for boar or sow pigs, \$5 each, crated and delivered on cars, or to express office at Richmond. Address orders to **HENRY W. WOOD**, Box 330, Richmond, Va.

Berkshires

Best **ENGLISH** and **AMERICAN** blood. Herd Boars: **Columbus Lee VIII** (brother of Combination); **Workman of W.** (sire, Jack of all Trades). Stock for sale at prices **YOU CAN AFFORD TO PAY**. **H. W. FUGATE**, Fugate's Hill, Russell county, Va.

BERKSHIRES

Some fine young Boars and Sows for sale. Pure **Biltmore** blood, by **MASON OF BILTMORE II** (88548), a son of **Loyal Mason**, and a grandson of the famous **Loyal Berke**. Splendid testimonials from my customers. Write for further information. **ROBERT HIBBERT**, Charlottesville, Va.

BEECHENBROOK STOCK FARM.

High class registered **BERKSHIRE PIGS**, ready for immediate delivery.

PRICES REASONABLE.

WILLIAMSON TALLEY,
Richmond, Va.



Hawksley Stock Farm,

has a few fine young **BERKSHIRE BOARS** to sell. No more pigs until August 1st, also a few half bred **DORSET HORNED BUCK LAMBS**. **J. T. OLIVER**, Prop. Allen's Level, Va.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

they were but \$138,000,000 against \$199,000,000 for last year and in the neighborhood of \$250,000,000 each for the years 1899, 1900 and 1901. For the past May they were but \$4,700,000 against \$15,300,000 last year and \$25,700,000 in the banner May of 1901.

In proportion to the population Hungary contributes most—over eight cents per capita while the amount of the United States is less than one cent.

Exports of cattle, sheep and hogs for the fiscal year ending July 1, 1904, will be over \$40,000,000. For the first eleven months of this year they were \$39,000,000, an increase of \$13,000,000 over the corresponding period of 1903. The average for the past five years has been \$27,000,000.

The more of such finished concentrated farm products shipped abroad with a consequent increase in farm fertility left at home, the better for American agriculture.

GUY E. MITCHELL.

LOUDOUN CO., VA.

Editor *Southern Planter*, Richmond, Va.

Dear Sir,—I send you under separate cover a description and premium list of the **Colt Show** recently held in this county at **Leesburg, Va.**

We are having a very wet June. Hay crop is likely to be the largest for past 10 years. Corn is looking well with mostly good stands. Not more than half crop of wheat, and harvest will be from one week to ten days later than usual. A full crop of cherries, large crop of peaches, apple crop almost a failure, abundance of pasture.

July and August cattle selling from \$4.25 to \$5.25 per cwt.; lambs selling from \$4.00 to \$4.50 each.

This is a strictly stock country and I hope I can benefit the **SOUTHERN PLANTER** by reporting from this county (**Loudoun**).

Very respectfully,

J. D. THOMAS,

Meadow Brook Farm.

June 20th, 1904.

CATTLE STANCHION.

Mr. Wallace B. Crumb, Forestville, Conn., is offering in another column the **Warriner Patent Chain Hanging Cattle Stanchion**. In offering this stanchion to the public, **Mr. Crumb** does so with the absolute confidence that it will please any farmer or dairyman who will investigate its merits. There are numerous points of merit which are attractively set forth in a neat little pamphlet. It will be mailed free on application.

We take pleasure in advising all those who have the cleanliness and physical comfort of their animals at heart to get into communication with **Mr. Crumb** at once.

Mention the **SOUTHERN PLANTER** in writing.

RINGWOOD STOCK FARM.

BERKSHIRES and POLAND CHINAS

for future delivery. I offer 7 Berkshire Pigs from Reg. Parents and 7 pure bred Poland-China Pigs, not registered, but as fine as the finest. Both litters farrowed May 23, 1904. For price, etc., apply to **C. A. WILLIAMS**, Prop., Ringwood, N. C.

ORCHARD HILL PURE-BRED

POLAND CHINA

Pigs and brood sows for sale. Also a fine Guernsey Bull calf and S. C. B. Leghorn Eggs. **F. M. SMITH, JR.**, R. F. D., 4, Charlottesville, Va.

Choice Poland-Chinas.

Sunshine and Free Coinage Blood.

Choice 2 1-2 months pigs. Either sex—ready for shipment. \$7 each. Eligible to registry and guaranteed O. K. Buy the best, it pays to do so. **E. T. ROBINSON**, Lexington, Va.

Essex and Poland China



pigs from 8 weeks to 4 months old. An extra choice lot. Also some choice Southdown and Hampshire down sheep and lambs. For prices, address

L. G. JONES, Tobaccoville, N. C.

Poland China Pigs

for sale. High grade, registered stock; first class in every particular. Correspondence invited. **R. A. MAPP**, Bivalve, Va.

Registered P. Chinas

C. Whites. Fine large

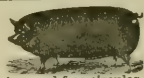
strains. All ages, mated

not a 1n, 8 week, pigs.

Bred sows, service boars

and Poultry. Write for prices and free circular.

P. F. HAMILTON, Cochranville, Chester Co., Pa.



FAMOUS O. I. C. SWINE.

Mortgage Litters—the hog for profit. Excel all others in vigor, health, strength of constitution, bone and muscle. Large litters, large gains, gentle dispositions, grand milkers, good feeders, thrive in any climate. Good ones, 3 months old, for sale. Reg. Stock. Prices low for quality. **MANSFIELD FARM**, W. ELLIOT HAMMOND, Goochland C. H., Va.

Poland-Chinas and Chester Whites

AT FARMER'S PRICES.

S. M. WISECARVER, - - Rustburg, Va.

Maplewood Herd

of Berkshires.

Choice individuals. Selectly bred. Write for prices, stating your wants. **JOHN F. TUCKER**, Smyrna, Tenn.

OAK-HILL FARM

**SADDLE HORSES, JERSEY
AND ABERDEEN ANGUS CAT-
TLE, BERKSHIRE HOGS,**

—FOR SALE—

Shipping point Oak Hill, Va., (Station on farm)
on D. & W. Ry. 15 miles west of Danville, Va.
SAML HAIRSTON,
Wenona, Va.

ELLERSLIE FARM

**Thoroughbred Horses
And Shorthorn Cattle,
Pure Southdown Sheep
and Berkshire Pigs.**

For SALE. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.

THOROUGH-BRED....

**Berkshire Boars,
Dorset Buck Lambs,
Jersey Bull Calves.**

All stock in best of condition and
guaranteed as represented.

F. T. ENGLISH, Centreville, Md.

—ONE REGISTERED—

HEREFORD BULL

calif, 10 months old for sale, or will exchange
for a heifer.

W. J. McCANDLESS Brandy Station, Va.

ALFALFA WHITE FACE FARM

Lebanon, Ind.

J. N. SHIRLEY, Hereford Cattle Breeder.

Good stock at "live and let
live" prices.

A son of DALE, the \$10,000.00
bull, at head of herd.

INCULATED ALFALFA soil
and seed for sale, seed, 18c lb,
\$10 per bu.; Soil, 75c 100 lbs.;
\$10 ton.

KENTUCKY JACK FARM

A fine lot of KEN-
TUCKY bred and big
BLACK SPANISH
Jacks and Jennets;
also 1 and 2 year old
Jacks; young stock for
sale at all times.
Write or see me be-
fore you buy. Come to Kentucky if you
want a good Jack. JOE E. WRIGHT, Junc-
tion City, Ky.

MACHINERY FOR FARM AND MILL.

A Well-known Line of Machinery on
Exhibit at the St. Louis Exposition.

The exhibit of the A. B. Farquhar
Co. in the Palace of Agriculture at the
St. Louis Exposition, comprising en-
gines, boilers, threshers, saw mills and
agricultural machinery, is a revela-
tion in mechanical improvement. Even
the last year has seen some remarkable
advances along this line. For in-
stance, the Farquhar Co. are exhibit-
ing the only mechanical log turner in
the world that can be used with a
portable mill. This effects great econ-
omy and consequent profit in opera-
tion.

While the Farquhar Co. build all
styles and sizes of engines, they make
a specialty of engines for agricultural
work; and it is a noteworthy fact that
no case is known of a Farquhar boiler
having exploded.

The threshing machines, grain drills
and other agricultural machinery ex-
hibited, possess unique features of
merit that make them worthy of care-
ful inspection.

To those who cannot see this ex-
hibit at the fair, the next best thing
is to possess a catalogue describing
and illustrating this machinery just
as it is. The A. B. Farquhar Co., Ltd.,
York, Pa., will send one free for the
asking. It is worth having.

GOOD FOR YOUNG PIGS.

Bolton Landing, N. Y., June 14, 1904.

Jos. Haas, V. S., Indianapolis, Ind.

Dear Sir: Your Hog Remedy is all
right. When I received it I had two
litters of small pigs that had been sick
for about two weeks with the scours,
and had lost two pigs from each lit-
ter. I began feeding the Remedy as
soon as I received it and have lost
none since. It has straightened them
right out and they are well now. The
mother of one of the litters was taken
sick about the same time as the pigs;
she was lame in her hind parts and
could hardly get around, but through
the use of your Remedy she is doing
well now. I think it a good remedy
and recommend it to all hog raisers.
I tried other remedies before I got
yours but they did no good. Please
send me three more half cans as I do
not want to get out of it again.

CHARLES ROBERTS.

The Lawrence Williams Co., Cleve-
land, Ohio.

Gentlemen: In March last, I or-
dered a bottle of Gombault's Caustic
Balsam to be used on a colt with Bog
Spavin that I had used other remedies
on, without success. I have cured it
with three applications of Balsam.

You requested me to write the re-
sults of its use. I consider it the best
blister made.

Yours truly,

W. F. JORDAN,
Livery Feed and Sale Stable, Mont-
cello, Ga.

PLEASANT VALLEY STOCK FARM**SHORTHORN**

calves from fine milking stock.

Yorkshire Pigs

of prolific breed.

JAMES M. HOGE, Hamilton, Va.



**COOK'S CREEK HERD
SCOTCH - TOPPED
SHORTHORNS...**

Herd Headed by Governor
Tyler, 1884-85, 1st prize aged bull at Radford Fair,
Young Bulls and heifers for sale. Inspection
and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

SHORT HORN BULLS

for sale, from 8 to
20 mos. old; sired by VERBENA'S CHAMP-
ION, No. 129881, and ROYAL CHIEF, No.
128432. Some good POLAND CHINA spring
pigs and 2 nice fall boars. All stock eligible
to record. Rare bargains for quick buyers.

WM. T. THRASHER, Springwood, Virginia,

TAMWORTH BOARS

Ready for
Service;

Bred from Registered Stock, Imported
from Canada.

I. H. LAREW, Newbern, Va.

Red Poll Bull

Calf 11 months old, pure bred and regis-
tered, for sale. Price, \$50 f. o. b. cars Chris-
tiansburg, Va. Address

H. K. FOSTER,

Blacksburg, Va.

Swift Creek Stock and Dairy Farm

Has for sale a large num-
ber of nice young regis-
tered A. J. C. S.

**JERSEY BULLS
AND HEIFERS.**

None better bred in the South. Combining
closely the most noted and up-to-date blood
in America. Bulls 4 to 6 months old, \$35;
Heifers, same age, \$35. POLAND CHINA
PIGS, \$5 each. Send check and get what
you want.

T. P. BRASWELL, Prop., Battleground, N. C.

—The Woodside—

Jersey Herd.
Bull Calves and Yearlings
Richly Bred.

DAVID ROBERTS, - - Moorestown, N. J.

A neat Binder for your back num-
bers can be had for 25 cents. Address
our Business Office.

BILTMORE FARMS, - Biltmore, N. C.

Headquarters for GOLDENLAD JERSEYS,

Also Get of TREVARTH and GEN. MARIGOLD. ❀ ❀ ❀

GOLDEN LAD'S SUCCESSOR. First and sweepstakes over all at the Pan-American Exposition, the champion JERSEY BULL OF AMERICA, and out of Golden Ora, our great prize-winning cow, both born and developed on these Farms, is among our service bulls.

Biltmore Jerseys are a combination of large and persistent milking qualities with an individuality that wins in the show ring.

SPECIALTY. Write for descriptive circular of the best lot of young bull calves ever offered, both for breeding and individuality. They are by noted sires and out of large and tested selected dams. Many of these calves are fit to show and win in any company.



BILTMORE POULTRY YARDS.



SPECIALTY. Write for descriptive circular of eggs from our prize-winning pens. Over 50 yards to select from, made up of the winners at the leading shows for the last two seasons. If you want winners you must breed from winners.

Headquarters for the best IMPORTED ENGLISH BERKSHIRES.

APPLY TO BILTMORE FARMS, BILTMORE, N. C.

EGGS FOR HATCHING

The Imperial Fruit and Poultry Farm



Is now booking orders for eggs for hatching from strictly pure, high-class poultry, at \$1.00 for 15 eggs, except duck eggs, which are \$1.00 for 13.



BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS,
SINGLE COMB WHITE AND S. C. BROWN LEGHORNS,
SILVER LACED AND WHITE WYANDOTTE,
MAMMOTH PEKIN DUCKS.

Satisfaction Guaranteed. Write your name and address plainly.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

COTTAGE VALLEY STOCK FARM.

FINE STOCK

FOR SALE

■ We offer the following VERY FINE stock at VERY LOW prices; 7-8 and 15-16 GRADE ANGUS bull calves; one bull calf out of Short-horn cow, by our Angus Herd Bull; Registered and high grade Angus Heifer Calves; Splendid Buck Lambs out of Shropshire Ewes by Reg. Dorset Buck; several fine family milch cows, fresh, young and gentle.

W. M. WATKINS & SONS, Saxe, Va.

ABERDEEN-ANGUS Bull Calves.

I offer for sale two pure bred bulls of the above breed, born Dec. 15, and Jan. 30 respectively, sired by my registered bull, ROCKBRIDGE ABATOR, No. 4364, and out of pure bred but unregistered cows. The Dec. 15 calf is full brother to one sold last season to Mr. Beard, of Moffatts Creek, Augusta county. The other is out of my largest cow and very promising. These calves will be kept with their dams until nine months old, \$50 each.

I have also a fine registered bull calf that will be ready for delivery in February. \$100. No females sold.

B. F. DAY, Glasgow, Va.

GREENFIELD HERD OF

Aberdeen Angus Cattle.

Baron Ida, 20184 (Champion yearling, 11 firsts, 17 times in 1st prize herd, 4 firsts on produce of sire and 3 times at head of grade sweepstakes herd) at head of herd.

The females in this herd are prize winners or the immediate descendants of prize winners sired by such noted bulls as Champion Lord Hillhurst, Beau Forbes H., by Beat Bull (champion of the West for two years) Cham. Baron Ida, Ludolph 4th, Rustler 2d.

Choice calves from the above cows sired by Baron Ida, Encouragement 4382, and Erard 55380.

WARREN RICE, Winchester, Va.

MONTEBELLO HERD

ABERDEEN-ANGUS CATTLE.

FOR SALE—Registered Bull calves from 3 months old, up.

L. H. GRAY, Orange, Va.

ROSEDALE HERD

Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as low as good breeding will permit. Inspection of herd and correspondence invited.

ROSEDALE STOCK FARM, Jefferson, Va.

NAMES OF FERTILIZING ELEMENTS.

(Continued from last month.)

All agricultural plants consist essentially of ten chemical elements, the proportions of which vary quite widely with different plants. By the term element is meant an individual substance which cannot be divided into two different substances. These ten elements are carbon, hydrogen, oxygen, calcium, magnesium, iron, sulfur, nitrogen, phosphorus and potassium.

Carbon usually constitutes about 40 per cent. of the dry plant. It is obtained by the plant from the inexhaustible supply of carbon dioxide which is contained in the air. This compound, carbon dioxide, is absorbed by the plant through the leaves or other green parts.

Hydrogen and oxygen are the two elements of which water is composed and they are obtained by the plant chiefly in this form, the compound water being absorbed by the plant roots. The hydrogen and oxygen usually comprise more than 50 per cent. of the plant. Many of the important constituents found in plants consist entirely of only carbon, hydrogen and oxygen. This is the case with sugar, starch, cellulose or fiber and most fats or oils.

The four elements, calcium, magnesium, iron and sulfur, are obtained only from the soil, but the amounts of these elements required by plants are very small compared with the quantities which practically all soils contain, consequently none of those four elements is likely to become deficient in the soil.

The three remaining elements, nitrogen, phosphorus and potassium, are required by most agricultural plants in very considerable quantities, and they are quite limited amounts, consequently if crops are grown and removed from the land for a long series of years the supply of one or more of these three elements is liable to become so greatly reduced that the crop yields become smaller than were produced on the virgin soil, ultimately the yield becoming so greatly reduced that cropping ceases to be profitable. In such cases the yield of the crop can usually be more or less increased by applying to the soil that one of these three elements which is most deficient in the soil.

Because of these facts materials containing considerable amounts of one or more of these three elements have come to have a commercial value. Thus sodium nitrate, which is found in large quantities in Chile, is valued for the nitrogen it contains; bones and rock phosphate are valued for the phosphorus they contain, and potassium chlorid and potassium sulfate, obtained from the very extensive mines in Germany, are valued for the element potassium which they contain.

Nitrogen in sodium nitrate is valued at about 15 cents a pound, phosphorus in fine ground steamed bonemeal at

about 12 cents a pound and potassium in potassium chlorid at about 6 cents a pound. These three elements of plant food, nitrogen, phosphorus and potassium, are contained in ordinary commercial fertilizers. If all three are present the material is then called a complete fertilizer. If only one or two of the elements are present it is called an incomplete fertilizer.

In general farming we have practically no use for any so-called complete fertilizer. First, because by means of leguminous crops, such as clover, stock peas, soy beans, vetch and alfalfa, we can obtain nitrogen from the inexhaustible supply of the air, usually at a cost of not more than 1 cent a pound, and consequently it would be absurd to pay 15 cents a pound for commercial nitrogen; and, second, because a soil rarely becomes deficient in both phosphorus and potassium. Generally applications of the one which is most needed will give about as good results and much greater profit than both together.

Although it is only the element itself which possesses any value for the plant, yet the plant can make use of the element in many different forms or compounds; indeed, plants cannot use these elements if applied in the free



ANGUS & HOLSTEIN CATTLE.

Registered and grades, of all ages and sexes, and of champion blood for the beef and milk strains and at moderate prices. Also Nursery stock of all descriptions.

MYER & SON, Bridgeville, Delaware.

3 Registered ANGUS=BULLS

9 months, 1 and 2 years old, for sale. Also half dozen Shropshire Buck lambs, September delivery. This is all fine stock and north of quarantine line. S. S. HEPBURN, Ashland, Va.

The RICHMOND FREDERICKSBURG, and POTOMAC R. R.

and WASHINGTON SOUTHERN R'Y THE RICHMOND-WASHINGTON LINE.

The Link Connecting the

Atlantic Coast Line R. R.,
Baltimore and Ohio R. R.,
Chesapeake and Ohio R'y,
Pennsylvania R. R.,
Seaboard Air Line R'y
and Southern R'y.

Between all Points via Richmond, Va.

Fast Mail, Passenger, Express and Freight Route between Richmond, Fredericksburg, Alexandria, Washington, Baltimore, Philadelphia, New York, Boston, Pittsburg, Buffalo, and all points North, South, East and West.

W. D. DUKE, C. W. CULP,
General Manager, Asst. Gen'l Man.
W. P. TAYLOR, Traffic Manager.

or uncombined state. They must be present in some suitable compound. If a soil is deficient in potassium that element could be supplied in the form of potassium chlorid, a compound of the two elements, potassium and chlorine, containing in the common market grade about 42 per cent. of potassium; or the potassium could be supplied as potassium sulfate, a compound of potassium, sulfur and oxygen (the ending -ate always indicates oxygen in a chemical compound) which usually contains about 40 per cent. of potassium. Kainit, a crude mineral containing about 10 per cent. of potassium, is also sometimes used to supply that element. Of course the value of any of these materials depends primarily on the percentage of potassium it contains. As a rule potassium can be obtained more cheaply in potassium chlorid than in any other form.

Phosphorus is commonly obtained in the form of calcium phosphate, a compound of the three elements calcium, phosphorus and oxygen, as the name indicates. In perfectly pure form this compound contains 20 per cent. of phosphorus, but it cannot be obtained commercially in pure form. Good steamed bonemeal contains from 60 to 65 per cent. of calcium phosphate—that is, from 12 to 13 per cent. of the element phosphorus. A good quality of ground rock phosphate also contains about 12 to 13 per cent. of phosphorus. If the steamed bonemeal costs \$30 a ton the phosphorus costs 12 cents a pound. If the ground rock phosphate costs \$7.50 a ton the phosphorus in that material costs 3 cents a pound. Steamed bonemeal is known to be one of the very best forms of phosphorus and bonemeal is also a farm product, but the ground rock phosphate is a very much cheaper form of phosphorus, although it is considered much less readily available in the soil. However, if equal values (not equal quantities) of ground rock phosphate and steamed bonemeal be used on different plots and both in connection with farm manure or clover or other leguminous fertilizers it is very probable that the rock phosphate will give as good results within two or three years and much better results if the applications are continued year after year.

CYRIL G. HOPKINS.

University of Illinois.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Smithdeal Business College

Broad & 9th Sts., RICHMOND, VA.

Commercial, Stenographic, Telegraphic and Eng. Depts. Ladies & gentlemen. No vacations. "It is the leading Business College south of the Potomac River."—*PHILA. STENOGRAPHER*. "When I reached Richmond, I inquired of several business men for the best Business College in the city, and, without exception, they all recommended Smithdeal's as the best."—*W. E. ROSS, LAW STENOGRAPHER, Richmond. Bookkeeping, Shorthand, Writing, taught by mail.*

We Are Still in the Business...

"HILL TOP" Stock at Shadwell, Va.

Having changed our residence, we brought with us and have for sale a choice lot of HILL TOP stock.

Southdown and Shropshire Sheep, Berkshire Hogs and B. B. R. Game Chickens.

Our Berkshire Pigs are now closely sold up, but we have a few left; will have a fine lot ready to ship by September 1st. We will be glad to serve our old friends and are always glad to make new ones.

We have won more premiums on sheep and hogs at State and County Fairs than all other breeders in Virginia combined.

H. A. S. HAMILTON & SONS, Shadwell, Va.

GLEN FARM

—Importer and Breeder of—

Polled Durham Cattle, Southdown Sheep and Poland China Hogs.

Polled Durhams are Shorthorns with the horns bred off. They are all either red or roan. Buy a Polled Durham and lay aside the bloody de. horned.

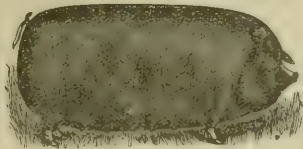
JNO. S. FUNK, Singers Glen, Rockingham Co., Va.



TAMWORTH and POLAND CHINA

Pigs from registered stock, 8 weeks old, \$5.00. A few nice POLAND CHINA Boars ready for service, for \$10 to \$15.

J. C. GRAVES, Barboursville, Orange Co., Va.



POLAND CHINAS.

Choice Pigs, Boars, Gilts and Bred Sows fine breeding and individuality; also of SHROPSHIRE RAMS.

Pedigrees furnished; stock guaranteed as represented and if not satisfactory, may be returned at my expense. Prices low.

J. F. DURRETTE, Birdwood, Albemarle Co., Va.

—FOR SALE—

90 EWES AND GRADE LAMBS

This flock includes 3 REGISTERED SHROPSHIRE BUCKS and 2 REGISTERED EWES; some common ewes; the bulk being grade Shropshires; also, 20 HEAD GRADE SHORTHORN CATTLE, all ages. 1 McCormick Corn Harvester, almost new, \$75.00.

BULLFIELD FARMS, Doswell, Va.

GOOD HOUSEKEEPING.**CANNING FRUIT AND VEGETABLES.**

In the June number of the **SOUTHERN PLANTER** there is a request from a subscriber in Pittsylvania for recipes for canning snaps and tomatoes, and as I have been very successful in putting up these as well as other vegetables and fruits I concluded to devote the space allotted to "Good Housekeeping" to telling just how we do it.

SNAPS.

Gather the snaps before they begin to be tough, string them and prepare just as if you were going to have them for dinner. Cover them with cold water and let them boil until nearly done, then to four gallons of the snaps add one ounce of tartaric acid, fill the glass jars just as full as possible out of the boiling pot screw on the top at once and keep them in a dark place. When you want to use them open the jar, pour off the water, wash carefully and let them soak in clear cold water for an hour, and then boil them with meat and you can't tell that they are not fresh from the vines. They never spoil and there is no bad effect from the acid if you are careful about the soaking. We have used them on our table for years done just this way.

TOMATOES.

Gather the tomatoes before they are soft, but they must be thoroughly ripe. Pour boiling water over them and the skin slips off easily. Break them up and let them boil for about twenty minutes very hard, fill glass jars just as full as they will hold and screw the tops on while at boiling point, screw them tight and when they are cold screw them again and set them in a dark closet and you will hardly ever lose a can. These are for baking and for stews and such, but if you want them to serve whole with dressing, select firm tomatoes of uniform size and peel them with hot water very carefully. Pack them whole into either tin or glass jars and put in all the juice that has run from them and fill the jar with water, screw on the tops but not very tight, and set the jars into a boiler of cold water, (if you use glass jars put some hay or pieces of thin plank in the bottom of the boiler to prevent breaking the jars) let them come to a boil and boil steadily for half an hour, then open and let the steam escape, fill with boiling water and screw up as tight as you can, return to the water and boil for an hour. When you take them out screw them up again and after they are cold do it again. These will take the place of a salad in the winter and taste very much like the fresh ones.

TOMATOES AND CORN.

Prepare the tomatoes as for canning and let them boil till nearly done then add to each gallon of the tomatoes about three pints of corn. The corn must be very young and tender, cut it from the cob and stir it in with the tomatoes, let it boil about twelve min-

Duntreath

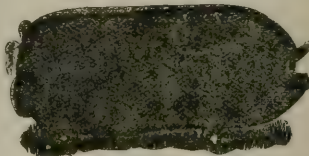
*"The
Very Best."*

*The whole story in
three words!*

Berkshires...

Extra Choice Young Stock now ready for Shipment.
Large number of Litters of the best English and American breeding. **MONEY CANNOT BUY BETTER!**

DUNTREATH STOCK FARM, RICHMOND, VIRGINIA.

86 BERKSHIRE PIGS

now ready for shipment; 10 to 12 weeks old, from directly imported sows or from sows of imported blood on both sides; sired by my 4 UNSURPASSED HERD HEADER BOARS from N. Benjafield, C. Collins Smith, James Lawrence and R. W. Hudson all of England. BRED SOWS, GILTS and ready for service BOARS. Prices as low or lower than those of any other STANDARD breeders, novices not reckoned.

THOS. S. WHITE, Fassifern Stock Farm, LEXINGTON, VIRGINIA.

Large ENGLISH BERKSHIRES.

BOARS ready for service.

Pigs ready to ship.

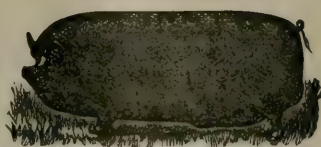
Bred Gilts.

**Forest Home Farm,
Purcellville, Va.**

We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

Proprietor of the Bridle Creek Stock Farm, Warrenton, N. C.

**THE - OAKS - STOCK - FARM.**

A. W. HARMAN, Jr., Prop.,

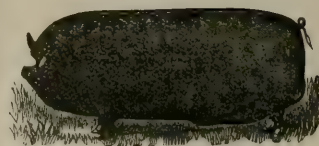
We breed and ship the best strains of

Large ENGLISH BERKSHIRES

Send us your order and get the best.

6 coming 2 year old JERSEY HEIFERS for sale; also 2 fine Jersey Cows; 1 yearling heifer, a perfect beauty. Write for price.

ALEX. HARMAN, Mgr., Lexington, Va.



A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

ANNEFIELD FARMS BERKSHIRES AND HEREFORDS

PLACE ORDERS NOW FOR SPRING PIGS

and get choice selections. A few Fall pigs at a bargain
if sold at once. Prices reasonable. *o o o o o o*

EDWARD G. BUTLER.

Briggs, Clarke Co., Virginia.

utes longer and fill the can, taking care that the mixture is boiling hot and that the cans are well filled. Screw on the tops at once.

CORN.

The corn to can must be just as tender as possible as the process toughens it. With a sharp knife cut it from the cob and weigh it carefully, put it into a kettle with enough water to cover and let it boil twenty minutes, then to ten pounds add one ounce of tartaric acid, let it boil a minute or two and fill the jars heaping full. Screw the tops tight and keep in a dark place. Be sure to soak the corn before using and you will find it as fresh as if just gathered. I have never known of any harm from using the acid, and it is the surest and easiest preservative I have found. Green peas may be canned in the same way and are a great help in the winter, especially in the country where we have no market to depend on. Plant a late patch and can them.

SOUP MIXTURE.

Peel and chop a half bushel of tomatoes. Let them boil and add to them a peck of chopped okra, and one gallon of finely chopped onion. Let these boil hard and stir carefully to keep from burning until all is reduced to a thick jam, then add a cup of celery seed, three-fourths of a cup of black pepper and let it boil awhile longer. Fill the glass jars and when it is cold screw on the tops or you may put it into a stone jar and when it is cold pour over it melted lard, half inch thick, tie up and keep in a cool place. A cup of this will season and thicken a pot of soup, and it is fine to dress broiled steak with. If you are not so fortunate as to have a row of okra in your garden use the tomatoes and onions this year and make a note of it, so that the okra will be ready next year. It is easy to raise and adds so much to the comfort of living, summer and winter.

BRUNSWICK STEW.

Corn and tomatoes and butter beans, if stewed together and canned give you Brunswick stew all the year round. You only have to add the chicken and potatoes and season as you like. Let the tomatoes and butter beans get almost done and then add the corn. Let it boil about ten min-

Hereford Cattle.

Sires in service: IMP. SALISBURY 76059 (19083); LARS JR. 85297.

My present offering consists of Bull Calves, Aged Bulls, tested and ready for service; breeding Cows in calf to above sires. These cattle are bred right and well developed and the prices are attractive. Call and make your personal selection or write. I have shipped Herefords, ordered by letter, satisfactorily into more than a dozen States.

Murray Boocock, Owner Castalia Herefords,

Keswick, Alb. Co., Va.

Bacon Hall Farm.

Hereford Cattle -:- Berkshire Hogs

REGISTERED-ALL AGES.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

E. M. GILLET & SON, - Glencoe, Maryland.

ROSEMONT HEREFORDS.

HEADED BY ACROBAT 68460,
THE FAMOUS

Choice young stock for sale at all times. Visitors welcome.
Come and inspect the best herd in the South

ROSEMONT FARM. Berryville, Clarke Co., Va.



GLENBURNFARM....

BERKSHIRES

This herd is composed of best IMPORTED and AMERICAN bred animals. Pigs from imported animals; also from granddaughters of such celebrated sires as FIRST CATCH F. An importation just received from England. Imported LOYAL HUNTER, bred by Mr. Hudson, Eng., and LEE TOPPER, a Loyal Lee, Highclere Topper boar, head the herd.
Dr. J. D. KIRK, Proprietor, Roanoke, Va.

IS YOUR FARM FOR SALE?

If so, list it with us. No sale, no charge.
Largest list of farms for sale in Virginia.
Write for Free Catalogue.

R. B. CHAFFIN & CO., (INC.) Richmond, Virginia.

utes, then put in the cans and screw tight. This keeps well.

BLACKBERRIES AND DEWBERRIES.

Among the most useful of all the canned things I find the small fruits and berries. They should be fresh, gathered the day they are put up. Pick them very carefully, and if you will pour them into a big pan of water and keep them under water you will find that your hands will not be stained. Put them on in a large kettle and add very little water, let them come to a hard boil and keep them boiling for ten minutes. Fill the jars full and screw as tight as possible at once. I use them for a vegetable, or for tea and if I want preserves I add a larger amount of sugar and cook them awhile.

GREEN GRAPE JAM.

Gather the grapes just as they begin to turn. I like the green fox grapes best for this. Squeeze out all the pulp and seed and put them in a granite kettle to boil until the seeds separate easily, then rub them through a sifter to remove the seed. Return the pulp to the kettle and add the skins and as much sugar as there is of the mixture measuring pint for pint. Boil until it is a thick jam, stirring all the time to prevent burning. This is delightfully flavored, and is nice between the layers of cake and good to make puffs with.

GREEN GRAPE JELLY.

Cull the grapes from the imperfect bunches, pick off the stems and wash well, put them into a granite or porcelain kettle, and fill it two-thirds full of water. Let them boil to rags, being careful not to burn, the seed stick and burn almost before you know it. Pour them into a bag and let it drip. I usually let them drip all night. Measure the juice carefully and to each pint allow a pound of sugar. Put the sugar into the stove to heat and let the juice boil fifteen minutes, then add the hot sugar, and let it all boil five or ten minutes longer, put into glasses and do not seal until it is thoroughly cold. It is hard to have any set rule as to how long jelly must cook, for a great deal depends on the condition of the atmosphere, and also the state of the fruit so one has to depend on one's own judgment in making it. Sometimes it will jelly in ten minutes and then it will take more than a half hour. But it always repays the trouble we have in making it.

CARAVEN.

You can't expect a soap that is made to remove dirt from your clothes to be a good shaving soap, but some men will use it and run the risk of serious skin trouble. The reason for this is that they have never felt the smooth, delightful effects of a shave with the creamy, thick lather made by Williams' Shaving Soap. See the advertisement elsewhere; take advantage of their sample offer and you'll never use any other.



No Trace of Disease

any one of the three years, 1901, 1902 or 1903 at or following the International Live Stock Exposition at Chicago. Is it remarkable? If you saw the shows you know the countless thousands in value assembled. There was anxiety among breeders. They had to be assured against the spread of contagious diseases. The management met the demand each year by disinfecting with famous

ZENOLEUM

Zenoleum exclusively. That's high, reliable testimony. Do you use Zenoleum? It destroys disease germs, avoids contagion, cures scab, cholera and skin diseases, kills lice, removes stomach and intestinal worms, establishes and maintains for live stock the most sanitary conditions.

"The Great Coal Tar Carbolic Disinfectant Dip."

Sample gallon of Zenoleum \$1.50, express prepaid. 5 gallons \$6.25, freight prepaid. If you breed live stock you should learn what Zenoleum will do for you. Ask for free Zenoleum handbooks, "Veterinary Adviser" and "Piggie's Troubles." A postal will bring them. Zenner Disinfectant Co., 93 Bates St., Detroit, Mich.

...Jersey and Guernsey Heifers... FOR SALE

Berkshire sows due to farrow in April and May, several boars large enough for service, pigs in pairs or trios not akin.

EGGS FOR HATCHING from Bronze turkeys, Pekin ducks, B. P. Rock and Brown Leghorn fowls. A few trios for sale, also a fine lot of Fox Terrier puppies by imported Rozanne.

M. B. ROWE & CO., Fredericksburg, Va.

Reg. HOLSTEIN-FRIESIAN

CATTLE of the Netherland, De Kol, Clothilde, Pietertje and Artis families. Heavy milkers and rich in butter fat. Stock of all ages for sale.

Reg. BERKSHIRES From noted strains; Imported Headlight, Lord Highclere and Sunrise.

DORSET SHEEP

B. PLYMOUTH ROCK CHICKENS,

N. & W. and Southern R. R.

T. O. SANDY, Burkeville, Va.

DEREDICK'S FULL CIRCLE BALING PRESS

Illustrated Catalogue Free.

The only full circle horse press in the world on which an automatic feeder is possible. Presses two charges every round of the horses. Will accomplish 3 per cent. more work with the same power than any other press made.

BEYOND THE RANGE OF COMPETITION

in construction and performance. Bales Hay,

St. Louis, Mo., Ill.

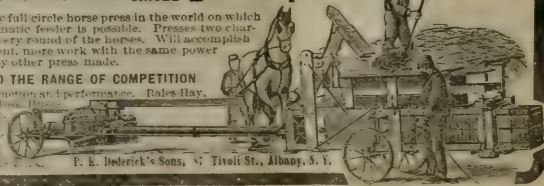
St. Louis, Mo., Ill.

St. Louis, Mo., Ill.

St. Louis, Mo., Ill.

St. Louis, Mo., Ill.

T. E. Dederick's Sons, 81 Tivoli St., Albany, N. Y.



ALFALFA

The Most Useful and Profitable Crop you can grow. The best time to sow (in the South) is from August 15th to September 15th.

Prepare your Ground carefully and to insure a stand **USE ALFALFA BACTERIA INFECTED SOIL** as recommended by the Agricultural Experiment Stations.

You can obtain enough of this infected soil to inoculate **ONE ACRE OF GROUND FOR \$1.00** per bag (about 2 bushels) **F. O. B. EWELL FARM.**

Send in your orders now and shipment will be made when you are ready.

A booklet, giving practical directions for raising Alfalfa sent with each order, Address

GEO. CAMPBELL BROWN,

EWELL FARM, Spring Hill, Maury Co., Tenn.

PIGGIES TROUBLES.

This is a neat booklet that should be read by all hog raisers as well as stockmen in general.

Knowing of the enormous loss of swine from cholera, the Zenner Disinfectant Company, 93 Bates street, Detroit, Michigan, have secured very valuable information on this subject from several of the best known specialists of bacterial diseases, as well as most successful swine breeders in the country. It contains a list of diseases swine are likely to contract, and gives treatment for each one, telling how to distinguish diseases by the symptoms, and what to do to relieve the trouble.

It is neatly printed, compact, convenient in size, and written in language that the farmer will easily comprehend. Every owner of swine should have one of these books, and there is no reason why one should not be kept for ready reference, for the publishers offer to send one absolutely free to the readers of this publication who ask for one. It is worth dollars to every one who has sick and ailing hogs, no matter what the trouble may be.

A VALUABLE POSTER FREE.

Our well known advertisers, The International Stock Food Co., send us a valuable poster containing two tables, one of which gives the average duration of pregnancy in the mare, and the other showing dates on which the mare should be returned to the stallion. As these posters are free to all brood mare or stallion owners, we suggest that all such of our readers send for one at once before the supply is exhausted. Before sending, however, better refer to this company's ad on another page and answer a couple of simple questions therein propounded, and get a valuable stock book free at the same time.

It will pay you well to take ten minutes to read the little book on "Wheel Sense," just issued by The Electric Wheel Co., Quincy, Ill. It tells about saving lots of hard work and repair bills.

SUNNY HOME HERD OF

ABERDEEN-ANGUS CATTLE.

BARON ROSEBOY 57666.

By the sire of the \$3,000 "GAY LAD," the noted "GAY ERIC," for years at the head of the "Bradfute" herd of Ohio; "Hector of Lakeside," at head of one of the best herds in Michigan; and a half dozen other great herd bulls at head of the herd. 47 registered females by some of the most noted sires in America. We point with pride to a long line of satisfied customers in Indiana, Ohio, West Virginia, Maryland, Virginia, North Carolina, South Carolina, and Mississippi. We have been engaged in breeding choice Angus for years, and are prepared to give our customers the benefit of our experience. As to the individual quality of our cattle, will state that we have sold recently five bulls to head registered herds. This speaks for itself. Write for what you want of either sex to A. L. FRENCH, R. F. D. 2, Byrdsville, Va.

Depot, Fitzgerald, N. C. D. & W. R'y 24 miles from Danville, Va.

SPRING LITTERS.

We have now coming ready for shipment seven litters of

LARGE YORKSHIRE PIGS

All recent experiments place this breed in front, as the best and most profitable bacon hog. They will raise 40 per cent more pigs and they will grow faster and make more pork in a given time than any other breed.

Also **BULLS, YOUNG COWS** and **HEIFERS** from our great **JERSEY COWS.**

BOWMONT FARMS. Salem, Va.

Stock Bargains AT "THE OAKS"

Having decided to locate in a Western State, I offer for 1 MONTH ONLY, the sensational yearling Bull, "LAMPLIGHTER." He will be ready for the Fall Shows. Also 4 Reg. SHORTHORN COWS, milking strain, 3 have calves at side; one gives 3 gals. milk per day after feeding a big, lusty Bull calf all he wants. B. B. BUCHANAN, Bedford City, Va.

ORGANIZED 1832.

ASSETS, \$932,050.00.

Virginia Fire and Marine

Insurance Company, of Richmond, Va.

Insures Against Fire and Lightning.

All descriptions of property in country and town, private or public, insured at fair rates, on accommodating terms.

AGENCIES IN EVERY TOWN AND COUNTY.

W. H. PALMER, President.

W. H. McCARTHY, Secretary.

ZENOLEUM BULLETIN NO. 107.

This is the title of a little circular sent us by the Zenner Disinfectant Co., who are the makers of Zenoleum, which is advertised elsewhere in this issue.

The pamphlet referred to is a brief digest of Bulletin No. 62, of the Oklahoma Experiment Station, which gives a record of tests made with numerous disinfectants. The result of these experiments is very highly favorable to Zenoleum. We suggest that interested parties write for the pamphlet.

CORRECTION.

We wish to call attention to an error in the ad of Magic Death Powder in our last issue. The type made the ad read, "Send 25c for a book"; whereas it should have read, "Send 25c for a box."

This insecticide is made by the Magic Food Co., Chattanooga, Tenn., and we invite attention to the corrected ad.

POISON-SUMAC.

There are several species of sumac, and most of them are harmless, but if we do not know one from the other we are apt to feel uncomfortable in the presence of any of them. The poisonous species may be readily distinguished from either the smooth sumac or the stag-horn sumac by reason of the fact that the leaflets of these species are saw-edged, while those of the poison-sumac are "entire"—that is, without teeth or lobes. The one other species with which it may be confused is the mountain sumac; but as in this shrub the leaf-stems are widened out into so-called "wings," it need not be mistaken for its dangerous relative, whose stems are wingless. The poison-ivy, a near relative of the poison-sumac, though usually a creeper, is classed with the shrubs, and sometimes becomes one when it happens to grow in a spot where there are no supports for its aerial rootlets. This plant has compound leaves with three leaflets, a fact which enables us to distinguish it at once from the Virginia creeper, which has five leaflets, and from the bittersweet, which has from seven to nine.—July Woman's Home Companion.

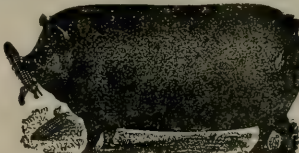
GLENBURN BERKSHIRES.

Dr. J. D. Kirk, proprietor of Glenburn Farm, Roanoke, Va., writes us that at present he has two imported Berkshire sows in quarantine at Athens, N. J. The addition of these two sows to his herd of American bred and imported Berkshires will give him one of the very best herds in the State. As Dr. Kirk has only recently offered his stock for sale, we suggest to our readers that they write him when in need of anything in Berkshire blood. Note his ad on another page.

"HOGGOLOGY" MY BOOK ABOUT HOG RAISING, FREE

This could be aptly called a text-book on hog raising for the novice as well as the adept. Compiled by a specialist, who has devoted nearly thirty years to the study of profitable swine raising. It is practical and complete, and should be in the hands of every hog owner. FREE, if you mention the Southern Planter when asking for it.

I WILL
INSURE
YOUR
HOGS



TRADE MARK.

CASH
FOR ALL
THAT
DIE

Full particulars of my insurance proposition, whereby I pay for all hogs that die when my remedy is fed as a preventive, are given in "Hogology." This great remedy has stood the severest tests for more than twenty-eight years, and is the peer of all preparations for hogs. Prices: 25-lb. can, \$12.50; 12½-lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

JOS. HAAS, V. S., Indianapolis, Ind.

CISMONT DORSETS

CISMONT STOCK FARM offers well developed young Dorsets of the best blood of England and America.

Prices Reasonable.

G. S. LINDENKOHL, Keswick, Albemarle Co., Va.



EDGEWOOD STOCK FARM DORSETS! DORSETS!

You men in the early lamb business need Dorset blood. No lamb grows like a grade Dorset. Grade Dorset ewes will lamb in December.

One cross will bring results. Try a Dorset ram. Our fall lambs are beauties. Write us or come to see them.

J. D. and H. B. ARBUCKLE, Maxwellton, Greenbrier, Co., W. Va.

CHARTERED 1870.

MERCHANTS NATIONAL BANK

OF RICHMOND, VIRGINIA.

CAPITAL,	- - -	\$200,000.00.
SURPLUS,	- - -	\$300,000.00.
UNDIVIDED PROFITS,	- - -	\$361,000.00.

Depository of the United States, State of Virginia, City of Richmond.

Being the Largest Depository for Banks between Baltimore and New Orleans, we offer superior facilities for direct and quick collections; accounts solicited.

JNO. P. BRANCH, Pres. JNO. K. BRANCH, Vice-Pres. JOHN F. GLENN, Cash.
Assistant Cashiers; J. R. PERDUE, THOS. B. MCADAMS, GEO. H. KEESEE.

When corresponding with our advertisers always mention the SOUTHERN PLANTER.

QUICKLY CURES SCOURS.

INTERNATIONAL STOCK FOOD CO., Minneapolis, Minn. ESSEX, VERMONT.
GENTLEMEN:—I have used "International Stock Food" for calves with great results. I tested it on my calves that had the scours, and they were quickly cured. I would not raise calves without "International Stock Food."
Very truly,
EDWARD DRURY.

QUICK CALF GROWER.

INTERNATIONAL STOCK FOOD CO., Minneapolis, Minn. FENNVILLE, MICHIGAN.
DEAR SIRS:—"International Stock Food" is highly recommended by the farmers in this vicinity. We use it and find it of great value in stock raising, especially cattle. Calves fed on "International Stock Food" grow faster and are of better quality than those that are not. On feeding it to our cows we find that they not only require less of the regular feed but "International Stock Food" increases the quantity of milk.
G. CHAPMAN.

Beware of Inferior Imitations and Substitutes. Write Us About "International Stock Food." We Have Thousands of Testimonials and Will Pay You \$1000 Cash If They Are Not Genuine.

3 FEEDS FOR ONE CENT

"INTERNATIONAL STOCK FOOD" IS 3 FEEDS FOR ONE CENT. It won the Highest Medal at Paris Exposition in 1904 as a High-Class Medicinal Preparation, made from powdered Roots, Berries, Seeds and Herbs, to give to Horses, Cattle, Sheep, Goats, Colts, Calves, Lambs and Pigs, in small amounts as an addition to their regular grain feed to secure better digestion and assimilation so that the animal will obtain more nutrition from all grain eaten. Scientific authorities prove that the average animal digests 50 per cent. of the average kind of feeds. "International Stock Food" will cause them to digest 100 to 125 per cent. We paid the government \$400,000 to war tax because "International Stock Food" was a high-class medicinal preparation. Many other kinds did not pay any war tax because they claimed to the government that they did not use medicinal ingredients and did not claim medicinal results. You can afford to give a small amount of "International Stock Food" only to a few calves and it will purify the blood, "tones up" and permanently strengthens the entire system. It cures or prevents many forms of disease. It will save you \$10.00 per year in the Feed of Every Horse You Work and its use will only cost you \$2.50 per year. It saves grain and 30 to 40 days time in growing and fattening all kinds of stock and is endorsed by over one million farmers who have used it for fifteen years. It is absolutely harmless even when fed in large quantities. It contains no drugs and no inferior imitations and substitutes. No chemist can separate and name all of the ingredients we use. Any company or chemist claiming to do so is a Self-Confessed Liar or a Paid Advertiser. Insist on having the genuine "International Stock Food."—It is sold by all Dealers on "Repeat Cash Guarantee" to Refund Your Money If It ever fails to give you satisfaction, paying results and its use only costs you 2¢ 3 FEEDS FOR ONE CENT. We have Factories at Minneapolis and Toronto, Canada.

A \$300000 STOCK BOOK FREE

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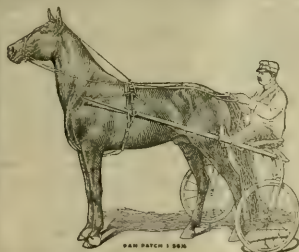
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LITERARY TALENT OF RICHMOND.

MARY WASHINGTON EARLY.

Richmond has never lacked literary talent. Even in her early days, she always had a good sprinkling of authors, and in addition to her native ones, a good many other Virginia authors have made Richmond their home, and have thus identified her with their literary fame. For instance, Edgar Poe made his residence here for a considerable part of his life, so Richmond will be, in future ages, the Mecca of travellers who appreciate his genius and this the world is beginning to do more and more highly, each successive year. I well remember how steadily and restful the fine old Allan home looked, on the corner of Main and Fifth streets, in such vivid contrast with the hum and buzz of business, a little lower down the street. It saddens me now to think that the walls which enshrined America's greatest poet have been pulled down, still the spot will always be one of keen interest to those who prize letters.

One of the earliest of the Richmond authors was the illustrious William Wirt, the distinguished jurist and at one time the Attorney General of the United States. Literature, however, was only an episode in Mr. Wirt's busy and strenuous life. I do not know the exact date of his birth, but I believe it was just before the outbreak of the Revolution. He was twice married, first to Miss Gilmer, of Albemarle county, Va., in 1795, but she died in 1799. His second wife was a Miss Gamble, of Richmond. He was the author of "The British Spy," and the life of Patrick Henry. The latter is one of the most valuable of our biographies, and is justly regarded as one of the classics of American literature. No writer ever set about the task of writing a biography in a more painstaking spirit. The idea of writing it first occurred to him in 1805, but as he had not known Henry personally, he was compelled to draw his information from others. From that time till 1814, he employed such leisure as his professional duties allowed him in collecting materials for the work from the remaining friends and contemporaries of Henry, amongst whom we may mention Thos. Jefferson, Gov. Page, Judge Tucker, Judge Roane, Mr. Peyton Randolph, Col. Wm. O. Winston, Col. Meredith and other distinguished old Virginians. Gov. Page gave him great help by letting him read an extended sketch he had himself prepared of Patrick Henry, and Mr. Peyton Randolph allowed him to examine an extremely valuable manuscript history of Virginia written by his father, Edmund Randolph, which history embraced the whole period of Henry's public life. In addition to private sources of information, Mr. Wirt had the good fortune to procure complete files of the public newspapers from 1765 to the close of the Revolution. He also had free access to the records



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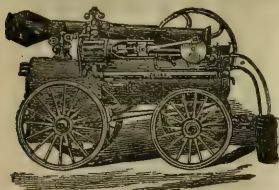
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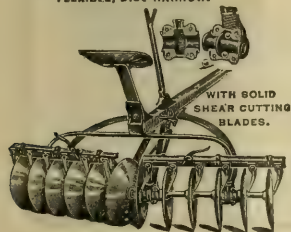
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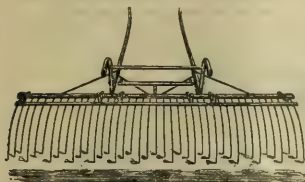


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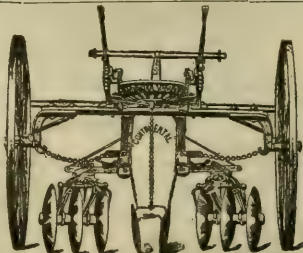
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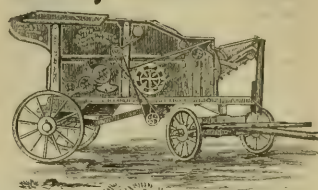
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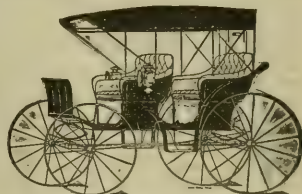
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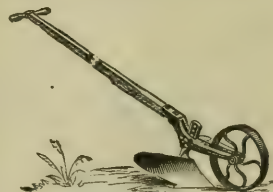
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of the General Court and the State archives. But even after he had during nine years carefully collected materials from all these sources, it required three more years to sift all this mass, remove the chaff from the wheat and reconcile the discrepancies, real or apparent, and out of the heterogeneous mass of materials piled up before him, construct a well proportioned building on a solid foundation of well ascertained truth. Mr. Jefferson proved a valuable assistant when Mr. Wirt was perplexed, his clear judgment and able counsel, added to his personal knowledge of the character and times of which Wirt proposed to treat, helping the latter to reconcile apparent contradictions and to clear away difficulties of fact. The work was at length published in 1817, and was so favorably received that it had a large circulation. Your correspondent has a copy published in Philadelphia in 1836 and belonging to the ninth edition, which was a great circulation for those times. William Wirt died in 1834. He was fortunate in having an able biographer, John P. Kennedy, who in his intervals of rest from professional and political duties, wrote "The Life and Correspondence of Wm. Wirt," in two volumes, 1849.

Another early author of Richmond was Robert R. Howison, born in that city on June 22d, 1820, a lawyer and author of high standing. His works are the following: "History of Virginia, from its discovery and settlement by Europeans to the present time," 2 octavo vols., 1847; "Lives of Gens. Morgan, Marion and Gates," 1848; "History of the War between the United States and the Confederate States;" "Report of the Joint Committee of the Confederate Congress on Treatment of the Prisoners of War." The above report was republished in various Northern papers and is given in full in Polard's "Lost Cause." Howison took high rank with the historical writers of the South, Gayarre and men of that stamp.

Another of Richmond's historical writers is Dr. R. A. Brock, born in that city March 9th, 1839. From his early youth, he showed the bent of an antiquarian, but he was bred to mercantile pursuits, and followed these till 1881, except during the four years when as a member of the famous "Company F" he served in the war. In 1881, he disposed of his interest in business in order to give more attention to the Virginia Historical Society of which he had been librarian and corresponding secretary since February, 1875. In 1887, he became secretary of that Society and has performed a very useful and valuable work in ed-

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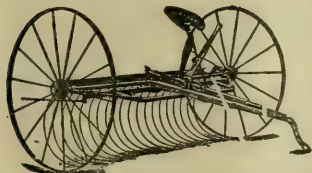
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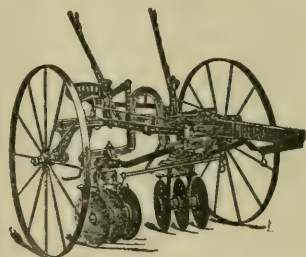
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iting the series of volumes issued by the Virginia Historical Society. In addition to this, he has prepared other historical, antiquarian and genealogical works, besides various statistical and historical papers for the United States, and for his native State and city. His labors have met with marked recognition, he having been invited to become a member of numerous learned societies in the United States, Canada and Europe. In addition to other duties, he holds the position of secretary and historiographer in the association formed of the survivors of "Co. F." He has also, from his boyhood up, been a frequent contributor to the press and to various magazines. From 1879 to 1882, he was one of the editors of "The Standard," a family paper published in Richmond, with a historical, genealogical and scientific department. He is indeed filling a useful place giving valuable aid in preserving historical records and in sifting the wheat from the chaff.

Amongst the ante-bellum writers of Richmond there was Mr. Samuel Mordecai, author of "Richmond in by-gone days," a valuable book of reference for those who would gain light on the past social life of Richmond. There has always been a circle of cultured, refined and intellectual Jews in Richmond who have had the entree into the best "Gentile Society" and who have commanded the respect and esteem of the community, and to this class Mr. Mordecai belonged. I might cite the illustrious Sir Moses Ezekiel as an example of this class in more recent years.

In addition to the native authors of Richmond, there have been a good many who while not born there have made it their residence and identified themselves with the place and people. John Esten Cooke was an instance of this. Though born in Winchester, Va., his father moved to Richmond while the boy was still very young, so he grew up and was educated in that city. At nineteen, he left school, studied law, was admitted to the bar and practised four years. He then gave up that profession to devote himself entirely to literature which he did all the remainder of his life, except during the four years when he served in the army. This proved, in the long run, no detriment to his literary career, as it enabled him to lay up a great store of material for future romances, as for instance, "Surry of Eagle's Nest," "Hilt to Hilt," "Mohun" and others. Besides his numerous novels, he also wrote a life of Robert E. Lee, and a history of Virginia for the young, besides editing the life of Capt. John Smith. He died September 27, 1886.

Thos. Nelson Page though born in Hanover county, 1853, entered on the profession of law in Richmond, he being one of the numerous authors who have prefaced their literary career by the study and practice of the law. His first story, "Marse Chan," made al-

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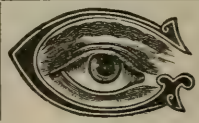
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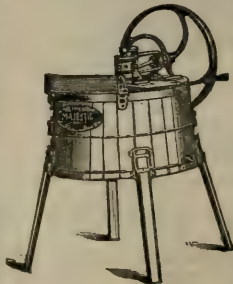
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most as great a hit as "The Luck of Roaring Camp." His subsequent career is so well known that I need not go into any details about it now.

Another writer, pleasantly identified with Richmond, though not a native of the place was Mrs. Anna Cora Ritchie, a woman not only of talent and culture but of a personality that made her more charming than her books. She was a native of the State of New York, but came to Richmond as the wife of Mr. Wm. Ritchie, editor of the Enquirer. Mrs. Ritchie's pen took a wide range as she wrote novels, plays, sketches and other works, besides an autobiography.

PROCEEDINGS OF THE EAST TENNESSEE FARMERS' CONVENTION.

The 29th annual gathering of East Tennessee farmers was held in the auditorium of Science Hall, University of Tennessee, Knoxville, June 1, 2 and 3. The attendance as heretofore was a representative one, a good many delegates coming, not only from Middle and West Tennessee, but from neighboring States as well. The hall was crowded throughout the different sessions and the enthusiasm manifested was good to see for it spoke volumes for the aggressive spirit that now pervades the farmers of the Middle South. It is also an evidence of the fact that they appreciate the educational value of meetings of this kind. The speakers at the different sessions were given the close attention which the many excellent papers presented deserved. It has always been the policy of the Convention to try and provide a varied program and to secure the services of a number of recognized specialists to discuss certain topics so that the latest and best information relative to the various branches of agriculture may be presented before the Convention.

It is impossible in this brief review to more than mention some of the leading speakers, though it is proper to say that the discussions following the different papers were spirited and were of great service in elucidating many points of great value to the average farmer which were not fully set forth in the different papers. It has been the writer's privilege to attend conventions in many sections of the country, but he has rarely if ever seen a more representative body of men gathered together in an agricultural meeting, nor a set of men who discussed agricultural subjects with a greater degree of intelligence. In other words, the present Convention was not a speakers' Convention.

The program was carried out practically as published, though Governor Frazier could not be present on account of his official duties which was a great disappointment. Fortunately, the services of Dr. H. J. Webber, in charge of the Plant Breeding Laboratory at Washington, were secured and

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he gave a very able and entertaining lecture on the results of his investigations. In this lecture he showed clearly the great importance of selecting plants for many purposes and he demonstrated not only the feasibility of this work on the average farm, but the great financial gain that would result to the farmer.

Prof. M. A. Carleton, Cerealist of the U. S. Department of Agriculture, spoke on the growth of cereals in the Appalachian region. He referred to the excellent work that had been done at the Tennessee Experiment Station with wheat, barley, oats and rye, and stated that in his opinion these crops could be grown quite generally throughout this region. The points emphasized were better soil culture and the selection and improvement of the various varieties in common use. It is proper to state that the Tennessee Experiment Station hopes to distribute a small amount of the different varieties of improved seed at an early date.

Mr. R. H. Kittrell, State Live Stock Commissioner, delivered an address on Tennessee's Interest in Live Stock. He stated that Texas fever caused the loss of at least \$100,000 a year to the farmers of East Tennessee and urged the farmers to co-operate with him so as to hold the pest in check. He saw no reason why a number of counties should not be placed above the quarantine line if greater care were exercised. He also urged the farmers to improve their live stock.

Hon. W. W. Ogilvie, Commissioner of Agriculture, next spoke on Feeding Mules. He stated that Tennessee mules brought from \$10 to \$15 more per head than mules from any other State. This was due largely to the method of feeding pursued. The mule breeders should give greater attention to size at the present time. Jacks should be 11 1-2 to 15 hands in height and have broad feet and chests and plenty of style. Plenty of green feed was necessary for the summer feeding. Sorghum should not be used during the finishing period as it made the hair too long. Otherwise, it was an excellent feed. Mr. Ogilvie's address was given the most careful attention because of his well known reputation as a successful mule breeder.

Dr. W. G. Shaw, consulting veterinarian of the Tennessee Station, spoke on Animal Diseases. He outlined those he has commonly met with in Tennessee and gave a concise resume of the treatment suggested for each. Milk fever was discussed very thoroughly and the relative merits of the Schmitt and Oxygen treatment were brought out.

Dr. M. Jacob gave a lecture on Type of Horses in Demand at the present time. This was illustrated by specimens of roadster, coach, saddle and draft horses. The large audience gave him the closest attention for if there is one thing the Tennessee farmer

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loves it is a good horse and rightly. The horse judging contest followed immediately. There was a nice display of horses and in the judgment of the crowd the best horse won, so all went home satisfied and feeling well repaid for their time and trouble.

At the evening session Mr. W. T. Roberts, of Riceville, read an able paper on "Keeping the Boys on the Farm." He advocated the value of agricultural instruction as provided in the University and urged the farmers to send their sons to take the short course at least if they could not take the four years' course. Prof. Bain, of the Tennessee Experiment Station, delivered an illustrated lecture on the diseases of the various farm crops in the absence of Prof. C. L. Marlatt, who was prevented from attending the meeting through sickness. Prof. Bain's lecture was well received as shown by the many questions directed to him during the lecture.

The Mountain Range for Beef Cattle was discussed by Major A. D. Reynolds, of Bristol. He stated there were greater opportunities offered in the Appalachian region for the development of live stock industries than anywhere else in the country. The range was abundant, there was plenty of freestone water, the heat was not excessive, and the fly pest was practically unknown. Why this great grazing region had been so long overlooked he was unable to say.

Mr. H. W. Crew, of Concord, Tenn.,

next addressed the Convention on Feeding Beef Calves. He emphasized the importance of grazing crops and stated that he found the Soy bean invaluable. He turned the calves on when it was comparatively young and if not grazed too closely, it continued to grow until frost.

Hereford on the Range was the subject discussed by Mr. J. Otto Kittel, of Herbert, Tenn. Mr. Kittel's ranch is situated on the Cumberland Plateau in a region where people believed that good cattle could not be raised. The excellent specimens he has produced in the last few years show this statement to be absurd, and for the sake of this region it is to be hoped that many breeders will emulate his example. Mr. S. S. Smith, of Whitesburg, volunteered a few remarks on Polled Durhams, and told interestingly of his experience with this breed and their adaptability to Tennessee conditions.

Mr. G. B. Wheeler, of Morristown, spoke on Farm Butter Making. He urged cleanliness and advised the discarding of rags and the use of brushes instead. He told how to milk the cows to secure the best results and of the importance of sanitation in and about the dairy. He said that first class butter would bring 30 cents all the year round, whereas, most farmers were getting 15 cents. Mr. Wheeler is a graduate of an agricultural short course and a thoroughly up-to-date farmer. Mr. W. G. Lenoir, of Phila-

delphia, spoke on Shipping Milk for the City Trade. Cleanliness, good water and expedition in handling were the points emphasized. He said that though milk was often shipped one hundred miles even in this section of the South it could be kept in good condition when properly handled.

Mr. S. E. Barnes, of the Tennessee Experiment Station, spoke on the importance of herd records. He said the gross earnings of the station herd three years ago were \$2,800, and for the present year they would be more than \$4,500. This was due to the keeping of a record and the weeding out of unsatisfactory animals.

Prof. C. S. Plumb, of the Ohio State University, next addressed the Convention on Experiments in Hog Feeding. His address was a masterly one and was listened to with rapt attention. He reviewed the whole history of experimental hog feeding in the United States and gave a statement of the comparative value of the various grains, manufactured by-products and forage crops for pork production. Mr. J. B. Madden, of the East Tennessee Packing Co., told what the packers wanted. He said they wanted to run their plant all the year, but could only get enough animals for about six months. They wanted from 175 to 300 pound hogs well fattened and also more beef and better beef.

(To be continued.)

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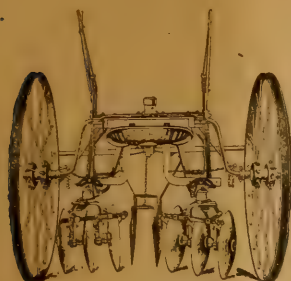


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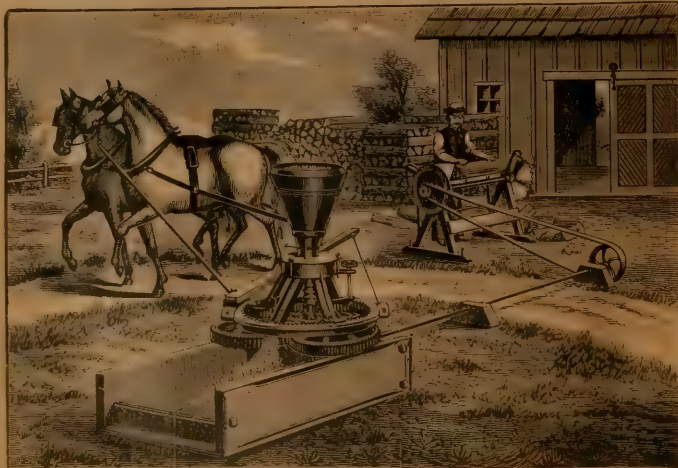
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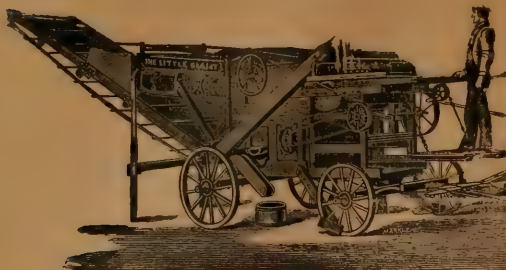
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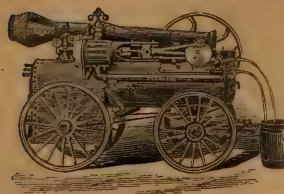
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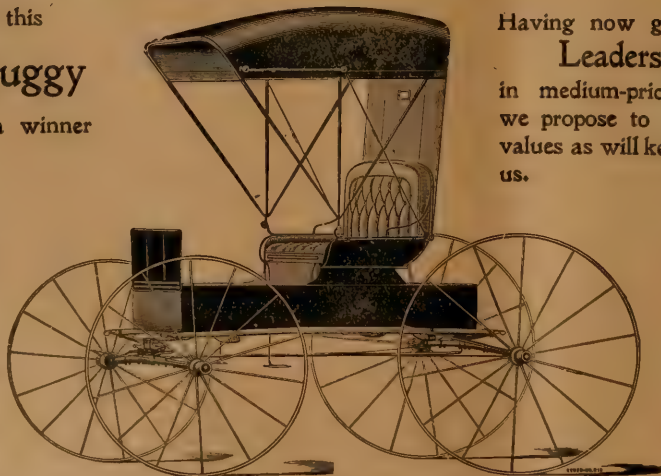
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65th Year.

Richmond, August, 1904.

No. 8.

Farm Management.

WORK FOR THE MONTH.

During July, up to this writing (20th of the month) we have had much more seasonable weather than was the case in the preceding months. The average temperature has been nearer the normal, and whilst we still lack much rainfall to make up the usual average for the State, yet there have been heavy thunder showers over nearly every section of the State, and these, though not sufficient in many parts to make good previous damage to crops, yet have helped very materially. What is needed now is a good general rain and then crop conditions would not fall far short of an average.

Winter wheat harvest has been completed now all through the country except in the extreme Northwest. Much damage has been done to grain in shock in several of the leading producing States, and no doubt the already deficient crop has been still further reduced. We see no reason to alter our opinion, that the total wheat crop will be at least 100,000,000 bushels less than that of last year, even though the spring wheat crop should realize the best that is expected of it. We notice that Mr. Hill, the president of the Northern Pacific Railroad, who is recognized as an authority on this subject, as it is his business to provide for the transportation of the crop from the North and West, confirms our opinion on the yield. He says that he does not expect the crop to exceed 600,000,000 bushels, which is even less than our estimate. We have reports as to many crops threshed out in this State. They confirm our estimate as to quantity. The quality, however, is in excess of the

average. We see no reason why farmers should be in a hurry to market the crop. There is going to be a strong demand for it later.

The oat crop promises a better yield than looked at one time possible. Whilst winter oats have been a comparative failure, the spring grown crop on account of the long continued cool weather has done better than usual.

The corn crop is very varied in promise throughout the South. There is an increase of about 2 per cent. in the area planted, and in this increase all the South Atlantic States participate. The condition is nearly up to the ten year average, and considerably in excess of that of last year. We are afraid, however, that the crop is being injured by the excessive heat and lack of moisture at the time of this writing. We have had a number of parties in complaining of the "rolling of the blades"—during the last few days. Wherever cultivation has been at all neglected this is sure to be the case, as there is a serious lack of moisture in the ground.

The tobacco crop is making good progress in most sections, but, like corn, needs rain. This crop will be materially smaller than for some years past. There is a reduction in the area planted throughout the country of nearly 25 per cent. The only increase noted is in the suncured section.

The cotton crop planted is a large one, considerably in excess of that of last year, and is making good

progress. There is every indication that the yield will be large, but we do not anticipate that this will cause the price to fall very seriously, as there is no surplus crop carried over, and the demand will be active for the new crop. Planters should arrange to market judiciously, not rushing the crop on the market, but supplying the staple as consumption and not speculation calls for it.

The hay crop has been rather short in most sections, the weather having been too dry and cold for it. There is promise, however, for a good second crop, where the rains have been frequent. This crop will, however, be largely supplemented by forage crops which have been planted in greater area than ever before. We have had almost constant enquiry as to these crops from sections from which we never before heard on the subject. Sorghum, sorghum and peas, cow peas, soy beans and millet have been widely planted over the South, and the reports we hear from these crops is very encouraging. When once farmers realize what an immense amount of stock feed can be raised in this way at little cost, and that when judiciously fed so as to combine the carbohydrate and protein crops in the ration, stock of all kinds can be carried through a long winter not only without loss, but with a constant increase in value, and at the same time make a large manure heap, which will obviate the necessity for buying fertilizer, there will be no need for us to urge this subject on the attention of our subscribers. It is not even yet too late to sow sorghum or sorghum and peas or millet for hay. We have known excellent crops of these to be made from seed sown in August. Of course, crops planted so late as August cannot make so large a yield as those planted earlier, and they require more care and patience in curing them, but where there is likely to be a deficiency in feed for stock during winter no hesitation should be made in sowing this month.

The apple crop is likely to be a comparative failure. The fruit set badly, and much of that set has since dropped. There is a fair crop of peaches on the higher mountains, but in the valleys there are none.

Live stock of all kinds is in good health throughout the South, and has generally done well, as is usually the case in a dry summer. The grass is more nourishing than when forced into lush growth by constant rain, and it stays in the animals better. There is, and is likely to be, a good demand for fat stock on the local and Northern markets, as the strike

of the packing hands in the West has stopped the killing of stock there to a very great extent. At this writing there does not appear to be an early prospect of a settlement of the strike, and Eastern and Southern markets will have to provide for their own wants.

The work of harvesting the spring sown forage crops should have attention as they become ready. If intended to be made into hay, the proper time to cut the crop is when just coming into bloom, or in the case of peas, when the first formed pods are turning yellow. At this time the stalk and leaves are fullest of nutriment and will cure into the most palatable hay. Of course, where the crops have been grown for the seed as well as the forage they must be allowed to stand until the seed forms and nearly becomes ripe. In this issue will be found two articles dealing with the much debated question as to how best to cure pea vine hay. We can commend both plans from personal experience. Practically they are what we have always advised—viz., to cure the crop like a heavy clover crop. Sorghum and sorghum and peas hay should be cut and allowed to lie as cut for twenty-four hours, and then be put into windrow or small cocks to cure out. Sorghum alone when grown for the forage and seed should be cut off at the root like corn, and be allowed to lie on the ground for several days to partially cure, and then be set up in shocks like corn. Sorghum is not easily spoiled by the weather, and therefore may remain in the shocks without fear of loss until convenient to house the same. Indeed, many large growers say that it makes more palatable feed and is more cleanly eaten by stock if always fed from the shocks all winter. The stalks are sweeter and more succulent than when stored in the barn.

Soy beans for hay should be cut when the first pods are beginning to ripen, and be cured like pea vine hay. When grown for seed the stalks should be tied in bundles and be set up in shocks to cure, and should be handled as little as possible, and then only when damp with dew, as the seed shells out badly in dry, hot weather. Hogs should be turned into a soy bean field after the crop is housed to glean the shattered seed.

Millet should be cut when in bloom or just in advance of blooming, and it then makes a good hay, which can safely be fed to either horses or cattle. If the seed is allowed to form it is not a safe hay to feed to horses. Some can eat it with impunity, whilst in others it affects the kidneys seriously.

When cut before the seed forms it makes better hay, and does not draw on the land so heavily.

The corn for filling the silo will also by the end of the month be ready for cutting. Do not, however, be in too great a hurry to cut. Much of the silage about which we hear complaints as to its sourness and want of nutritiveness is the result of cutting the corn too early. It should be allowed to stand until the ears are beginning to glaze and the stalks have lost much of the water, which are a characteristic of immature growth. It will still have enough moisture in it to ensure that the bulk when packed in the silo will heat sufficiently and pack closely enough to exclude all air. In this condition it will make sweet, nutritive silage. When filling the silo see to it that the sides and corners of the silo are kept well filled and tramped solid, and that the ears of corn are thrown from under the carrier or blower, where they naturally accumulate, equally on the whole surface of the silo, so that the feed shall be equally good all through. When the silo is full, or the crop is all in, then cover with a foot of marsh hay or cut straw or cotton seed hulls and water this cover freely. It will fill with mould in a few days and effectually seal and preserve the silage.

The seeding of forage crops for winter and spring grazing and for cutting for green feed in the spring and for early hay, and, more important still, for making a cover for the land during the winter and preserving and improving its fertility, should have attention. This month and September are the best months for seeding crimson clover and hairy vetch, the two first crops to be sown. English vetch and rye may be sown up to the end of November, commencing in September or October. In our last issue we published several articles on crimson clover growing, and refer our readers to them. We strongly advise that the whole crop of crimson clover should not be all seeded at one time. It is a plant easily killed by the hot sun when just starting growth, and many good stands are lost in this way every year. If, however, part be seeded at one time, other part a week later, and still more another week later, some is sure to stand, and a crop be secured. When seeding crimson clover and the vetches always seed with them a mixture of wheat, oats and rye, say from 10 to 15 pounds of the clover seed or 20 pounds of vetch seed per acre, with three-quarters of a bushel of wheat, oats and rye mixed in equal parts. This will ensure a crop, and make better grazing and feed than either sown alone.

August and September are the two best months in the year for seeding clover and grass in the South. Let this matter have early attention. We need to grow thousands of tons more of hay every year to meet our requirements. From recent statistics, which we have seen, it seems probable that we now in the State of Virginia alone import not less than from 750 to 1,000 cars of Western and Northern hay each year. What the whole of the Southern States import we are unable to say, but it must be an immense quantity. Every pound of this can be grown profitably at home, and ought to be. We are hoping to see such attention given to the alfalfa crop, about which we published much matter in our last issue, and as to which crop there are several very encouraging articles in this issue, that very much of this deficiency shall be made good from this source alone. Alfalfa hay is the most nutritious dry feed that can be grown for all kinds of stock, and the possible yield per acre is so large that every effort should be made to secure a stand and an increased acreage each year. August and September is the time when alfalfa seed should be sown, and preparation of the land cannot begin too soon. All the clover and grass crops require land in a good state of fertility to ensure a stand, and, more important still, they require that the preparation of the seed bed should be the best. Plow deeply and harrow and roll and reharrow and roll until the land is as fine as a garden bed before thinking of sowing a seed. An application of lime is also very essential especially for the clovers, which will not grow in a soil at all acid. In our last issue we published an article from Mr. Clarke, probably the most successful hay grower in the country, in which he gives particulars of the fertilizers which he uses to secure his great yields, and to this we refer our readers for information on this point. We may say, however, that we should not advise the use in the South of so large a percentage of nitrate of soda in the fall as he applies, but should reserve this until spring, and then apply it as a top dressing. The bone meal and pot ash can safely, and ought to be, worked into the land before seeding. Our own experience has convinced us that for good, permanent results in grass growing bone meal cannot be surpassed as a fertilizer. Anywhere from 300 to 600 pounds to the acre ought to be applied, and the more the greater the profit in the long run. We again repeat what we have so often said, *grow grass and clover alone and not with a grain crop*. Seed heavily. We would never sow less than 2 bushels of grass seed to the acre, from 10 to 15 pounds of clover seed, and 20 pounds of alfalfa. In seeding for a meadow select two or three varieties

of grass like orchard grass, tall meadow oat grass and herds grass, which mature at the same time. For a pasture mix a larger number of varieties which mature at different seasons, so as to ensure grazing for as long a period as possible. For this purpose we would add to the above varieties perennial rye, Virginia blue and meadow fescue. Sow with each seedling some red clover or alsike, say 5 or 6 pounds to the acre. Where Timothy succeeds it is a profitable grass to grow, as there is always a demand for it on the market. Sow a peck of the seed per acre, and sow it alone. In this issue will be found an article from Mr. Clark giving particulars of his first crop of grass this year. We would like to see some of our farmers try to excel this.

Though too early to seed wheat or oats, yet it is not too early to begin to prepare the land for the seeding of these crops. More of the success of the crops depends on the preparation of the land before seeding than upon the fertilizer applied. Plow deep and break fine with the cultivator, roller and harrow and keep these implements going over the land every week or ten days until time to seed the crops. The essential for success in wheat growing is a fine, deeply broken seed bed, yet with a compact sub-surface and free from weeds.

Turnips should be sown this month. Prepare the land finely and make it rich if you expect to make a heavy crop. Farm yard manure and acid phosphate are the proper fertilizers to apply, and they should be well worked into the land with the cultivator and harrow. To make the best crop the seed should be sown in drills 2 feet apart, and after the plants have grown the first rough leaves they should be thinned to stand 10 inches apart in the rows. Grown in this way from 20 to 30 tons to the acre can be raised. Ruta bagas should be sown first, as they take longer to mature, and common turnips later in the month and in September. Every man who keeps a cow or sheep ought to grow turnips. They are almost essential to successful sheep husbandry and a great help with cattle.

Dwarf Essex rape should be sown this month for fall and spring grazing for the hogs and sheep. Prepare the land as for turnips and sow in drills in the same way as advised for that crop if the best are desired. The seed may, however, be sown broadcast if time does not allow of drilling and thinning. Three pounds of seed will be sufficient per acre if sown in drills or 5 pounds seeded broadcast. Do not

turn the stock on too soon, and do not graze too closely, and you will have a pasture both in fall and spring.

ALFALFA IN VIRGINIA.

Editor Southern Planter:

Replying to your request for experience with alfalfa, my desire to settle more fully some uncertain points, has held me back until now.

We prepared a plot of four acres February, 1903, for potatoes, a deep, rich loam, top dressing with scrapings of summer cattle yard, about 7 loads per acre, no other fertilizer. A large crop of potatoes came off first of July, 1903. The plat was plowed, disced and harrowed late in August. About September first seeded with alfalfa, 14 pounds per acre (much more than was needed), using an ordinary shoe drill. No other seed mixed with it. This made a good stool during the fall and started off vigorously in the spring. When about 6 inches high some streaks or strips seemed to cease to grow, remaining so for some time. On seeking for the cause I found that these light strips were where the manure had come from the horse barn; all the rest, being nearly all the plat, came on as though treated with bacteria, which I found to be present. As there had been no alfalfa on the farm previously, I ascribe this to the sweet clover (*Mellilotus Alba*), to which the cows had access while using that yard where I got the most of the manure. The lighter parts came on better after a while, and at first cutting, May 26th, the average height was about 3 feet, some of the tallest measuring 4 feet. First cutting gave one and one-half tons per acre cured hay (estimated). The second started off more evenly and made less height, but thicker, cutting, July 1st, about the same yield per acre as the first time. A beautiful new growth is in sight at this writing. Most of this plat was in good tillage, but at one spot there was a very heavy sod of Bermuda grass. I have watched this spot with considerable interest, as I knew there would be a fight for life between these two giants. The alfalfa had the advantage in one way, being a good fall and early spring grower, but, on the other hand, the Bermuda had solid possession. The result so far is that the alfalfa got a good root and came on so vigorously before it was warm enough for the Bermuda that the grass made a very poor showing. After the first cutting it brightened up a little, but was so soon under again that it now seems about to give up the battle, while the alfalfa is as large there as anywhere in the lot. I sowed another plat about Octo-

ber 1st last, but failed entirely to get a stand, although the ground had been well prepared. I believe September 1st, and without a nurse crop, is the best time to seed it.

Everything eats alfalfa, and we should seed more of it and have better and more stock to eat it.

York Co., Va.

B. F. WRIGHT.

ALFALFA IN VIRGINIA.

Editor Southern Planter:

In your June issue of SOUTHERN PLANTER you requested your patrons to write you briefly their experience and observation with the growth and cultivation of alfalfa. More than twenty years ago while travelling in the Territories and on the Pacific Coast I first had my attention directed to the growth of alfalfa. In fact, I saw nothing of the grass or hay kind growing after I had gone through the Platte Valley, in Nebraska, to the Pacific Coast, except alfalfa. I was told in California the roots of alfalfa would grow till they reached water, and have been known to go forty feet in the West. On my return from California I bought some seed to experiment with and sowed it on a rich gray soil in my garden. I sowed the seed in September. The seed germinated quickly and grew vigorously, and for twenty years held its own against all noxious growths till finally the heavy weeds smothered it. I noticed each succeeding year of its growth about the last of April the alfalfa would be matured enough to harvest, and I suppose about three crops could have been harvested from its growth during the year. Last September a year ago I selected three small plats on the farm to again test its merits. Two of the plats were elevated land, with the gray primitive soil with the red clay subsoil. The seed germinated quickly and grew vigorously. The plats were near the farm-yard, and the chickens during the winter season destroyed the alfalfa, root and branch. The following April I replowed the plats and reduced them to a fine tilth and resowed them in alfalfa, and to-day have as vigorous a growth of alfalfa or Chilian clover as can be found in Utah or California. This is where the stock has not been allowed to trample upon it to its injury. The third plat selected was on a very steep place, and while the growth here is sporadic, it shows a strong, healthy growth. Two years ago I saw in Albemarle county, Va., as fine a growth of alfalfa as I have ever seen, growing on a red steep hill. I am of the opinion that alfalfa will grow anywhere in Virginia where white or red clover will grow. It might be necessary to sow and resow the land two or

three times to insure a satisfactory stand, and I am of the opinion that the cheapest and surest way to inoculate the soil is to sow the seed. In sowing one of these plats a few seed fell on barren, hard spots near the road side, and they are growing as vigorously as if they had been sown on better selected earth. I mention this to show that the alfalfa will grow here under unfavorable conditions even.

H. E. Wood.

Fluvanna Co., Va., June 23, 1904.

ALFALFA IN TENNESSEE.

Editor Southern Planter:

In the year 1901 I began the culture of alfalfa in an entirely experimental way, upon the advice of the greatest advocate of alfalfa east of the Mississippi river, Mr. Joseph E. Wing, of Ohio, who has been growing it successfully for ten years or more on his Woodlawn Farm. I had an old stable lot of one and a third acres, on one side of which grows a row of thick and tall osage orange trees, and the soil of which was fairly representative of the whole of our tillable land, with the advantage obtained from having been an old stable site. We plowed this ground during the last week of February, and after having worked it over thoroughly several times with a harrow, on the 6th of March sowed 20 pounds of alfalfa seed and a bushel of spring barley. They both came up quickly and made good stands, and about the last week of June (rather too late to leave a nurse crop on) the barley ripened and was cut, leaving the alfalfa plants, small and sickly in appearance, but thick enough to be called a fair stand. The alfalfa made very little growth during the month of July, owing to the absence of moisture, and on the first of August I ran the mower over it, cutting it as close as possible to the ground. Luckily we had a light shower shortly afterward, when the alfalfa sprang up thick and strong over the whole plot, and in another month we were able to cut it again, and took off probably a half ton of hay. The growth of the month of September was allowed to die down at frost and mulch the ground for the winter. The next season, 1902, we cut this plot three times, beginning the last week of May, and after August 1st the plot was used entirely for pasture, affording excellent pasture, used in connected with blue grass, for sheep and cattle, until frost again. In 1903 I was able to cut the first crop about the first of June, and tried to keep an estimate, according to the conveniences at hand, of the yield per acre. The first crop, which contained some red and white clover when cured, weighed 4,400

pounds per acre. I did not weigh the succeeding crops, but as near as I could estimate it, the second crop, cut before the first of July, made at least 3,000 pounds; the third crop, cut some four weeks later, was excellent, and I am convinced that it produced at least two tons to the acre. The last crop was cut about the first of September, and made about 1,500 pounds of hay. I am sure that we made at least six tons of good barn dry hay per acre on this plot last season. The first crop only has been cut this year, and it is fully up to any yield the plot has made heretofore, in spite of the fact that a small percentage of the plants were frozen out during the winter. We finished putting up the hay about the 20th of May, having been delayed by rains just at the time it should have been cut, and by the 2d of June had about fifteen inches growth on the next crop. Altogether, we are perfectly satisfied with the experiment on this piece and on another plot of five acres sown in the fall of 1901, and other seedings have done as well as we could hope for. It is our expectation to begin this fall and next spring and increase our acreage in alfalfa to two hundred acres as fast as possible. It is our experience that good hay can be more easily made from alfalfa than from any other clover or grass we have ever grown. The hay can be cured into a beautiful tea green, with all the aroma, and evenness of quality of the freshly mown hay field. I have found it a safe and profitable feed for all kinds of live stock under varied conditions.

A word on the subject of inoculation. My observation of this plot during the first year of its growth showed that only here and there in spots or streaks where the soil was particularly fertile did the alfalfa plants show the dark green color and strong foliage, indicative of good health. The second year almost half the plot showed this feature, and the third year, 1903, the whole plot was of the desired color and strength. It will be remembered that the alfalfa bacteria was not exploited until the spring of 1903, but the accounts appearing in the leading farm papers and Experiment Station bulletins led me to investigate the roots of our alfalfa for nodules. They were found in great abundance over all parts of the plot, and as luck would have it, also had spread to the other patch, probably from using the same tools on both plots, the rake being a supposedly reasonable means of scattering the bacteria.

My experience leads me to believe that September 1st to 15th is the best time for sowing alfalfa in the South. Failing to get a stand at that time, or in case of loss by freezing out in winter, I think the stand could be renewed on the same ground in latter part

of February or almost any time in March, by reseed-ing with disk drill. Do not sow a nurse crop with the fall seeding, but see that the ground is broken up as early as possible in the summer, and thoroughly worked into a fine and dusty seed bed before putting on the seed. I believe the seed should be put in with a drill at the rate of 12 to 15 pounds per acre, and not more than one to one and a half inches in depth. In view of the lights before us on the inoculation theory, I think it would be folly to sow alfalfa without in some manner inoculating the soil or the seed. The soil can be inoculated by simply sowing soil off an old and well-established field of alfalfa, showing the bacteria-bearing nodules on the roots. Prof. Soule, however, recommends taking a given amount of this soil and mixing the seed before sowing. This, no doubt, would give a more even distribution of the bacteria, but you can readily understand that the soil does not have to be sown with quite the same care as the seed, and if the higher parts of a plot are well inoculated the infection will soon spread by the natural drainage and cover the whole plot, as was the case with my first experimental piece.

GEO. CAMPBELL BROWN.

Ewell Farm, Maury Co., Tenn.

ALFALFA—SHEEP HUSBANDRY.

Editor Southern Planter:

I notice your discussion on alfalfa. I will give you my small experience.

I sowed it in spring as directed, and had great trouble to keep the weeds down. I have been accustomed for some years to sow red clover or scarlet clover in my corn at last working. Twice by chance I got seed which had some alfalfa in it. I had no trouble whatever with it. It withstood the drouth and the winter better than the red clover or scarlet. If it will do this here at this elevation of 2,500 feet, I feel quite sure there is no place in the "Old State" where it would not winter.

Being a native of the "Old State," I am rejoiced to see the interest there manifested in legumes and sheep. I think I can reply to the man who wished to know why the English could keep such large flocks, while we could not.

In the first place, the English provide an abundance of food for their flocks at all seasons of the year, and do not give an alternate feast and famine; secondly, that food is provided in small inclosures so that the sheep are moved frequently to uninfected soil; thirdly, the food is much of it upon tilled soil,

and this tillage destroys the infection and keeps the soil and sheep in health.

One of the very best sheep dips is made by a very weak solution of tobacco, to which hardwood ashes are added until it will kill ticks. This may be known by catching a few ticks and putting them in the dip, then place them on a board; if in a few moments they are dead the dip is all right; if not, add more ashes. I never tried it, but I believe the ashes themselves would make an effective dip. M. A. DUNLAP.

Pocahontas Co., W. Va.

RAPE IN VIRGINIA.

Editor Southern Planter:

I saw to-day an interesting experiment with the cultivation of rape. It is on the farm of H. H. Hudgins, Esq., near Columbia (Fluvanna county). About the last of March Mr. Hudgins sowed one-third of an acre of his farm in rape. The first of May he turned twenty hogs upon it. These hogs have grazed it continuously since, and with a small ration of corn, have kept in excellent condition and with no perceptible loss in the growth of the rape. With these hard times upon us, and corn scarce, if the farmers would sow small areas in rape it would enable them to feed their hogs at a comparatively small cost. I think Mr. Hudgins told me the seed he sowed on the one-third acre cost him twenty-eight cents. The rape seed was sown as turnip seed is usually sown.

H. E. WOOD.

Fluvanna Co., Va.

CURING COW PEA HAY.

Editor Southern Planter:

In the last two years I have cured 120 acres of cow pea hay, the season of 1902 being dry and that of 1903 wet, making a very fine hay in the dry weather and a good hay in the wet. The method used being different from any I have heard of, may be of interest, and I give it.

I cut the cow peas when the first leaves begin to turn yellow, follow the mower immediately with a horse rake, and follow the rake immediately with men and forks, who segregate the rows into small piles, not over three feet in diameter and eighteen inches high, leaving them as puffy as possible. In this way the hay is got into piles, constituting a good fork full, unwilted and full of leaves; the warm air penetrates easily and it is cured green. In a week, weather favoring, the hay will be fit to put away. Should it rain, I wait patiently until the sun and air dry the

piles, except at the bottom, and then one movement of the fork turns the pile over. If rain again falls before the hay is secured, the waiting and turning process is repeated. I put the hay in ricks 12 feet wide and as high as possible, for it settles a great deal, and as soon as the rick is finished thatch it with straw or fodder so as to turn water. The difference between this method of curing and others usually practiced is the small pile used, which dries more quickly than a large one, and which permits the water to run through, instead of being caught and retained in the middle of a shock, causing mold and rot.

F. SNOWDEN HILL.

Prince George Co., Md.

CURING COW PEA HAY.

Several methods of seeding cow peas may be followed. Broadcasting is commonly practiced, but that requires more seed and it is not easy to distribute them evenly, and if the weather is particularly dry the stand will not be so uniform as where a drill is used. At the station it is found preferable to use an ordinary grain drill, stopping up every other tube. This puts the peas in drills about sixteen inches apart. The seed should be covered by about three inches of dirt, which ensures a moist seed bed and quick germination. By utilizing the drill a more uniform stand can be secured and less seed is required than in other ways. Where the drill is used the land can be cultivated once or at most twice, so as to destroy weeds, break up the crust and preserve a dust mulch, all very desirable ends, especially in case of a drouth year. Where the peas are grown in drills they do not tangle so badly as where seeded broadcast, and it is easier to cut and separate them when making the hay.

As already suggested it is best to have the crop ready for hay making from the last week in July to the middle of August, as the weather is generally settled at that time and evaporation is most rapid. The peas are ready to cut for hay when the lower leaves are beginning to turn yellow, the pods well formed, the peas well hardened and the pods assuming a yellowish tinge. If cut before this time the crop is not sufficiently matured to contain the highest percentage of food nutrients, while if permitted to grow older the leaves become dry and brittle, and as they are the richest in protein their loss is to be avoided. It is not at all difficult to decide from the description given when the proper time has arrived to cut peas for hay, though judging by the correspondence of the station it seems to be a difficult question to decide on the average farm. It is best to cut the peas in the morning if possible, and especially when there is little or no dew on them. They should then be allowed to

wilt in the sun all day and be run over with a tedder next morning. The tedder completely inverts them and leaves them loosely strewn over the ground, thus aiding rapid evaporation and ensuring quick drying. The same evening they may be raked into windrows, and if the weather is fair, left to cure further in this condition for a day or two, depending on the amount and strength of the sunshine, as it is always necessary to prevent the leaves becoming so dry and brittle that they thresh off the vines.

After remaining in windrows until fairly well cured, gather the peas into small stooks and let them stand for a day or two, then at the end of twenty-four to forty-eight hours gather into large ones. These may then be capped with a fork full of straw, and the hay can then be permitted to stay in the field for a week or ten days, or until it becomes thoroughly cured. The small forkful of straw placed on the top of each stook acts as a "watershed," and is much cheaper and more satisfactory than any other form of capping that we have tried. Hay caps of ducking have hitherto proved too expensive and required more time to put on, take off and dry out and put away than where straw is used. If the straw is loaded on a hay rack and driven through the field, the man on the wagon can cap the stooks as he goes along and cover a great many of them in a short time. When the hay is cured and ready to go to the barn, the straw can be gathered in with the hay. If that seems objectionable it may be gathered up and used for bedding or scattered on the ground as deemed preferable. While some may think the method outlined involves considerable labor, it is the simplest, easiest and surest method of curing pea hay that we have tried. The hay will be ready to store in the barn when a small amount twisted together fails to show any apparent moisture. It is preferable to store the hay in large masses, thoroughly salting it and packing it down as tightly as possible to exclude the air. Then let it alone. Even if it should heat after it has been carefully field cured, if it is not disturbed it will come out clean and bright and in the best possible condition. Many people destroy their pea crop by attempting to open up the mass if they feel it begin to grow warm. Let it alone and it will come out all right. Many others fail because they do not put the hay in large enough masses or pack it well enough.

Other ways of curing pea hay are frequently suggested, and some of them are doubtless excellent in their details, but to date, the one given has proved uniformly satisfactory. We have been able to cure out a bright, clean, fresh pea hay with a delightful aroma from crows cut all the way from the middle of July to the middle of October, and it would seem that while it might involve a little more labor and trouble than some writers advocate, its uniform safety makes it the best method to pursue in the long run.

The difficulty of curing pea hay is due to the im-

mense amount of water which the crop contains at the time it is ordinarily ready to cut for hay.

The following figures are interesting on that account:

VARIETY.	Green weight Lbs.	Cured weight Lbs.	Water lost Lbs.
Taylor	22,500	6,200	16,300
Wonderful	21,400	5,200	16,200
Clay	20,700	4,900	15,800
Blackeye	18,000	5,150	12,850
Whippoorwill	16,500	4,800	11,700

—Prof. A. M. SOULE, in *Breeder's Gazette*.

GRASS GROWING.

Editor Southern Planter:

Herewith find report of my 1904 first crop of grass. The season has been a backward one for most crops. The grass, as a whole, is light, mine is better than last year, the first crop last year on fourteen and five-eighths acres was 55 tons, 729 pounds. This year on eleven and one-third acres there was 60 tons, 175 pounds, nearly five and one-half tons per acre. I have found thus far that potash will make the grass stand up whether wet or dry. My seventh-eighths acre field is the best this year that it has ever been. Many others who have adopted my method have heretofore secured eight tons of dry hay to the acre in one crop, but until this year my best hay has been seven and three-quarter tons. This seven-eighths acre field has produced from one seeding in fourteen and one-half years 121½ tons of dry hay. Many have beaten me in a single crop, but I think this record is a world beater. Some say the fertilizer I use, made of bone, muriate of potash and nitrate of soda, is not all soluble. That may be so, but with this compound and the intense culture given I get from six to ten tons of dry hay yearly. If any of your friends will send me a 2-cent stamp I will send them a circular to tell them how. The one-quarter acre field which produced 6,401 pounds in three crops in 1903 yielded the first crop this year, 3,261 pounds. The fertilizer was put on this section last fall. I am experimenting to find out what is the best time to apply the fertilizer, whether fall, spring or both. Shall report later. I tried three and one-half acres of oats for hay. Sowed 22 bushels, cut them July 11th. Put them in the barn the 16th. Had four days' good sunshine; they were very dry. They weighed eleven and one-half tons, cost \$6 per ton in the barn. They make excellent hay. The five and one-half acre plum orchard is loaded with plums. Hope to report more profit this year in plums. The trouble with

plums is that there is so little time to market them, one bad storm and they go by.

Higginum, Ct.

GEORGE M. CLARK.

SOME NOTES ON JULY PLANTER.

Editor Southern Planter:

Referring to the Editor's remarks on my contribution to the July number of the *SOUTHERN PLANTER*, I have no doubt that the results in Rhode Island were correct, and that acid phosphate gives better results on land that was acid and sweetened by lime than it would on an acid soil. But this fact does not militate against the fact that lime in contact with acid phosphate will revert the phosphoric acid. Liming land and afterwards using acid phosphate is all right, but lime in direct contact with phosphoric acid is all wrong.

SEEDING TO GRASS.

Stick to that advice you give the Amelia county man, to sow grass without a nurse crop. A friend of mine was recently visiting in West Virginia and met a farmer there who said to him: "Massey advised sowing grass alone, and my neighbors said that it would not do, but that it was necessary here to sow with fall grain. But I took his advice and now have the best stand of grass in the whole neighborhood, and my neighbors are watching my experiment closely." One may get a good stand of grass in a grain field and then lose it by the sudden exposure to the hot sun after harvest. Another common reason for failure in grass and clover is the sowing of too little seed. I was often laughed at in Virginia for sowing clover alone, 15 pounds of seed per acre. But my clover crop was always enough heavier than the crops of those who laughed and sowed six to eight pounds to pay for ten times the amount of seed used.

SORREL.

The growth of sorrel is usually an indication not only of poverty in the soil, but of acidity. Not that the acid in the sorrel comes from the soil, for it really comes from the air, but because sorrel can abide an acid condition in the soil that clover cannot. Hence the use of lime will bring about conditions more favorable to the clover and enable it to overcome the sorrel that prefers the acid condition.

TOMATOES.

The tomato crop has always been a favorite one with me both in the garden and as a truck crop in the field. I agree with Mr. Price, that it does not pay to stake and prune tomatoes in field culture. But in my garden I find that I can get earlier, more and better fruit from the same area by staking and pruning, though at far greater expense and labor. I set my garden plants in rows three feet apart and the plants two feet apart in the rows, and then train to

one stem and tie to stakes. But if I was growing them for the canning factory I would give the plants more room and never prune or train. Another thing I have found out years ago in regard to tomatoes. I can get smoother fruit and a more perfect crop on mellow farm land that will not make more than 25 to 30 bushels of corn per acre than in a rich old garden soil, plowing under in the field a light broadcast dressing of manure. The thinner soil will bring earlier fruit, too, than the rich soil, and there will be less rot without spraying. Mulching the tomato plants with straw is an advantage in a dry season, but exactly the reverse when the season is wet. The tomato is very fastidious about moisture. If the weather is very dry they do not do well, and then if it gets too wet it is just as bad for them. I keep the crust broken between the rows all the time to retain moisture in dry weather, doing it very shallow, even when they are fruiting and ripening.

VELVET BEANS.

Growers in the extreme southern part of this State in sandy soils on the Atlantic Coast R. R. claim that notwithstanding the great mass of growth the beans make they are more easily secured than the cow pea, since they are planted so wide apart that there are fewer attachments to soil. In an experiment I made here years ago the beans were planted eight feet apart, and we started at one side of the plot and rolled them over and over, cutting them loose as rolled, and cleared the ground completely. But the job then was separating them for loading, and on a large scale it would be necessary to slice them into squares. But you are right in your advice in regard to them for any locality north of the southern corner of North Carolina.

DUAL PURPOSE SHORTHORNS.

I think that what you say in regard to these simply shows that the stock indicated have been bred into dairy Shorthorns, and have gotten a dairy type, and hence are valuable for the dairy. But that they can be at the same time the best beef makers is a physical impossibility. There were in this country in my boyhood a great many deep milking Shorthorns or Durhams, as we called them, and they were of pure dairy conformation. But they have been bred out by the general breeding of the breed for beef, and while here and there we have deep milking Shorthorns, they are sports or freaks, and will not transmit their milking qualities when bred to a modern Shorthorn bull. The best beef quality and the best dairy quality cannot be combined in the same animal, and while we may get a half and half cow, the real dual purpose is a myth. You can ruin a beef breed by trying to make good milkers for the dairy out of them. I would as soon think of training a bull dog to hunt quail and expect him to do it like a Setter that is "built that way." Just as well expect a Per-

cheron to beat a Standard bred trotter on the track as to expect the finest dairy performance from a breed bred for beef. The two characters are too diverse.

W. F. MASSEY, *Editor of Practical Farmer.*

In our remarks on the advisability of giving attention to the breeding of dual purpose cows we relied not merely on recorded tests of what these animals have done, but largely on our own personal experience in handling cattle of this type. We found them good at the pail and good as makers of beef and as producers of beef steers. We have kept numbers of these dual purpose cows which gave an average of five gallons of milk per day for weeks after calving, and made from 14 to 22 pounds of butter per week, and which, when they failed to breed made 1,500 pound beef animals. In connection with this subject a series of studies made at the Wisconsin Experiment Station, extending continuously over nearly five years, is very instructive. In the summary of the conclusions reached the author of the report say: "The cows in the University herd may be considered as representing three different types of cows—viz., extreme dairy type, large dairy type, and dual purpose type. If the results for cows of the same type be averaged, we find that the large dairy cows lead in average annual production of fat with 325 pounds, the extreme dairy cows being next with 310 pounds, and the dual purpose cows last with 293 pounds. The rank of the cows according to net profit returned decreased in the same order from \$45 for the large dairy cows to \$35 for the dual purpose cows. In the opinion of the authors cows of the large dairy type of the particular breed suiting the fancy of the farmer and weighing, say 1,000 pounds or more, will, everything considered, be found most satisfactory for the dairy farmer. Cows of the dual purpose type, on the other hand, are to be recommended for farmers who wish to utilize more or less of the rough feed produced on their farms for raising beef for the market in conjunction with keeping a number of cows for milk production." As farmers who are simply and solely dairymen are and always must continue to form a large minority of the farmers of the country, the wisdom of breeding and improving the type of dual purpose cows cannot be questioned or disposed of by saying that this type of cow is not as perfect as a purely dairy or beef type for the specific object for which the different types may be kept. Where there is one farmer wanting a purely dairy or purely beef animal there are hundreds who want an animal that will make both milk, butter and beef, and will bring calves which will profitably consume the roughage of the farm and turn it into beef.—Ed.

NUTRITIVE RATIO OF PLANT FOOD IN THE SOIL.

Editor Southern Planter:

Messrs. Whitney and Cameron, in Bulletin No. 22, Bureau of Soils, says: "The idea now held by the Bureau as a result of these investigations is that *the ratio of the nutrient elements in normal soils does not play a very important part in the yield of crops.*" (Page 62.) Again: "This (a defective nutritive ration) cannot be in general an important cause of low crop yields, and that the subject of nutritive ration can, therefore, safely be put aside for the present as of relatively little importance to the farmer." (Page 62.) And, again, on page 63: "There is no obvious relation between the amount of the several nutritive elements in the soil and the yield of crops." . . . "The conclusion logically follows that on the average farm *the great controlling factor in the yield of crops is not the amount of plant food in the soil.*" . . . "It appears further that practically (theoretically) *all soils contain sufficient plant food for good crop yield.*" (Page 64.)

I return now to page 62: "It would appear from the results given in this bulletin that plants can and do yield ordinary crops, though growing in media containing very small traces of all of the plant foods, while *if the amount of these plant foods is increased a thousand times*, as in the case of our alkali soils of the West, where potash, lime, phosphoric acid and nitrates are frequently found in very large amounts, *they are unable to give corresponding increases in the yield.*"

By the way of answer to the above extracts and more particularly the latter clause, I do not propose to quote authorities, but simply call the reader's attention to what has actually been accomplished along this line, and in confutation of above ideas, by actual practical farmers on the farm.

I will cite first the case of Mr. Z. J. Drake, who grew 255 bushels of shelled corn, or 239 bushels of crib cured corn per acre. I have enjoyed the pleasure of conversing personally with Mr. Drake, and also of closely examining the prize acre, and derived quite valuable information from the former and interest and instruction from the latter. This contest, premium or prize acre had been so completely exhausted of its original store of fertility by continuous cotton culture that its maximum yield under ordinary culture was but five bushels of corn per acre; and it, together with the land contiguous to it, was so outrageously and notoriously poor that it received the rather opprobrious epithet of "Starvation's Empire." By liberal manuring with the rakings and scrapings of cow lots, fence corners, etc., and stable manure, Mr. Drake so improved it as to gather 800 pounds of seed cotton per acre. About this time, the "American Agriculturist" prize was offered, and Mr. Drake, seeing his opportunity, went in to win, and won.

Now, according to the idea of Messrs. Whitney and Cameron, this truly wonderful increase in yield was due, not to added plant food, but, first, "to improving the texture of the soil"; second, "the organic matter content"; third, "the structure of the soil" or "the arrangement of the soil grains"; and fourth, "physical factor the exact nature of which is yet to be determined." Now, without wishing to underrate the importance of "efficient methods of cultivation" and their efficiency in increasing crop yields; I would call the reader's attention to the fact that in this instance, the only difference in cultural methods pursued in the making of 5 and 255 bushels per acre was that, in the latter case, a subsoil plow was run in the turning plow furrows to a depth of 12 inches. As this has been done in thousands of instances, yet no wonderful increase of crop yield has followed, I am forced to the conclusion that the increase was due to but two things—first, the added plant food; and second, an exceptionally favorable season.

In thirty-five years of actual experience in practical farming, I have learned some things about maximum crop yields and how they may be obtained that are not found in the bulletin of Messrs. Whitney and Cameron. Those gentlemen tend to make obscurity more obscure by stating that "the great controlling factor in the yield of crops is not the amount of plant food in the soil, but it is a *physical factor the exact nature of which is yet to be determined.*"

They would strive to bring to naught the research and labor of centuries, and give us absolutely nothing in its place. They would wantonly destroy the bread and give us a stone in place of it. I lay no claim to being even a little piece of a scientist, yet I am not willing that the light we now have should be obscured in any such a manner. "Effects follow causes" or they do not. Which is it?

Thoroughly enrich, by adding plant food, a piece of land, then just 'tickle it with a hoe and it will laugh with a harvest.' All the deep preparation and thorough culture possible will not make a sterile soil produce maximum crop yields unless plant food be added. Aside from a few soils that are decidedly deficient in some elements, though they probably contain an excess of other elements just as important; a condition of things that, of course, needs correcting by restoring the equilibrium or "balance"; I care but little for "ratio" or even the "law of minimum"; what I do care about in most instances is the "law of maximum," for the reason that that is just what it takes to bring about production of maximum (i. e., greatest possible) crop yields; the soil must contain an excess of all the elements of plant food in available form over and above any and all requirements the plants can possibly make upon it. A bountiful supply of all the elements of plant food must be provided, whether artificially or otherwise.

Gomez, Miss.

G. H. TURNER.

Mr. Turner sends us another article in continuation of this subject, which we intend to publish in our September issue. We may then make some remarks on the question ourselves, as we took occasion to comment favorably on the celebrated Bull. 22. Whilst the deductions drawn from the experiments made by Messrs. Whitney and Cameron, as published in Bull. 22, have been the subject of adverse comment by a number of scientific agriculturists, we believe still, and this belief is based on our own practical experience, that those deductions are in the main sound. There is more in crop production than is covered by the quantity of plant food supplied.—
ED.

ALFALFA GROWING.

Editor Southern Planter:

I am glad to know that you are going to give the special aid of your valuable journal to alfalfa the greatest grass known, and one destined to revolutionize farming in the South, if sown by the right parties. You well know cotton was called king, then iron, then corn, (correct me if I am wrong); but if you and I are spared 10 years we will hear the cry go up from all over the land, "Hail to king alfalfa." I would say to all who expect to sow it, *don't, don't*, use anything but home-grown seed, which the Breeders' Gazette has been trying to beat into our heads for three years. I would say to any one thinking of sowing alfalfa, follow *close the advice of the editor of the SOUTHERN PLANTER*, inoculate your seed, *keep down the weeds* and success is in sight, provided you have alfalfa land. Three things are essential to the growth of alfalfa east of the Blue Ridge and South of the Potomac. G. G. G.! *Grit, Git, Gumpton.*

"Lay on McDuff." B. B. BUCHANNAN.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Plant for Name.

I enclose a stalk of a plant that comes up in the clover. What is the name and what is the feed value? Some of it grew four and one-half feet high. How much seed per acre should be mixed with red clover?

L. C. GODWIN.

Accomac Co., Va.

The plant sent is Cheat (in some sections called Chess). It is considered a pest wherever it is found.

It is the plant which so often takes the place of a crop of winter oats when the same has been winter killed. There has been a great deal of it in the State this year. It is either introduced into the land with the oat seed or is lying dormant in the land waiting for a favorable opportunity to grow. It should be destroyed wherever found, as it is of little value as feed, and is sure, if not kept out of the land, to come up when not wanted.—Ed.

The Rye Crop.

An enquirer asks what is our average crop of rye in this country.

The average crop of the United States for the last five years was 15 bushels to the acre.

In Virginia the average for the past five years was 10 bushels to the acre.

In Washington and Montana States the yield is often from 25 to 30 bushels to the acre.

In Virginia we do not find records of more than 12 bushels to the acre. We have no doubt, however, but that on good land with proper preparation twice that yield could easily be grown in Virginia. Rye is usually here grown on thin land and mainly for pasture, and this does not conduce to a very heavy yield.—Ed.

Skippers in Meat.

Seeing an inquiry in your paper about how to get skippers out of meat, I advise that you use carbon bisulphide just as you would on grain. Do not pour it on the meat. Put it in a saucer and let it evaporate. The meat must be in a tight box or barrel. Have used this treatment with excellent results.

New Kent Co., Va. R. B. FOUNT LE ROY.

Skippers in Hams.

In glancing over the July number I find on page 463 an inquiry as to skippers in hams. I believe with you that it is best to prevent their getting there, if possible, but if you do not succeed in this, immersing the ham in boiling water for five or ten minutes will, I think, destroy the skippers without hurting the ham.

Albemarle Co., Va.

WM. R. DUKE.

Ground Lime Stone.

Will lime stone, reduced to powder, give as good results as unslacked lime on land? Also, what quantity of the former would you advise using per acre?

Morgan Co., Ala.

R. S.

Ground lime is being largely used in some sections of Pennsylvania, where there are mills for grinding

it, and with success. We believe they use from 500 pounds upwards to 1,000 pounds to the acre.—Ed.

Fall Cabbage.

Will you kindly give me some advice about the best time to set out cabbage for fall. How they may be kept after frost comes? How to cultivate and manure so as to make them live at this season?

Halifax Co., N. C.

M. NELSON.

The seed for late fall cabbage should not be sown in your State before 1st August. Make the bed rich and make it away from the buildings, where insects are not likely to be so troublesome. Encourage the plants to grow quickly by cultivation between the rows and the application of a little nitrate of soda. Dust the plants with tobacco dust and air-slaked lime to keep off flea beetles. Set out the plants in naturally moist, clayey land made as rich as possible. Encourage quick growth by cultivation and a dressing or two of nitrate of soda alongside the rows. They should commence to head in November, and be well headed in December. Bend the plants over to the ground with the heads towards the North, and cover the stalks and the base of the head with soil, and they will keep well.—Ed.

Curing Pea Vine Hay—Harvesting Corn—Grass Mixture.

1. What is the best and most economical (with respect to labor) method of harvesting and curing pea vine hay, and when should they be mowed?

2. What is the best method of handling corn, as we do in this section, cut tops, pull fodder, haul corn to barn and shuck and then worry over the stalks in the fields when we go to cut wheat, or as it is done in Pennsylvania and New York and elsewhere, cut off at ground and shuck from the stalk? If one only has hand labor, when should corn be cut, if this latter method is followed, and how should it be handled?

3. Please give mixture and proportion for a winter grass sowing for pasture, and when should it be sown?

THAD. S. TROY.

Rondalphe Co., N. C.

1. In this issue you will find two articles dealing with the harvesting of pea vine hay. We can commend both methods, as they are practically what we have always advised and practiced.

2. Cut the corn at the ground and set up in shocks to cure. We have for years condemned the practice of pulling fodder and cutting tops as both wasteful of feed and wasteful of money. Cut when the corn is glazed and dented. It will then cure out in the shock plump and sound.

3. In our article on "Work for the Month" you

will find advice as to mixtures of grass seeds for meadow and pasture.—ED.

Seeding Wheat With Lime.

Would it be advisable to sow lime in place of fertilizer for wheat, using drill and sowing at same time as wheat? How much lime should be sown per acre?

Wythe Co., Va.

G. J. R.

We have never tried the drilling of lime with wheat, but have seen some reports in which it apparently was the course taken and succeeded. We always applied the lime broadcast, and then drilled the wheat. We doubt whether the drill will put on lime sufficient, at least 25 bushels to the acre should be applied.—ED.

Grass for Name.

Kindly give name of enclosed grass, and also land adapted to its growth.

SUBSCRIBER.

Amelia Co., Va.

Enclosed please find sample of grass, of which please let me know the name. I found it growing in a lot of orchard grass.

H. W. ROBERTSON.

Bedford Co., Va.

The grass sent with both the enquiries was meadow soft grass or Yorkshire fog. It has no recognized value as a feed in this country, except for marsh lands in the Northwest.—ED.

Clover and Bean Bacteria.

1. Does the same bacteria that works on the general crop of garden beans answer for soy beans?

2. Is not the Clay or cow pea really a bean; and if so, is it necessary that any special bacteria be used for it?

3. Is the red clover bacteria available for crimson clover, or any other variety of clover?

FOSTER CLARKE.

Mercer Co., W. Va.

1. No. The soy bean bacteria is so far as at present known a specific bacteria of that plant.

2. Yes. The cow pea is botanically a bean. It is rarely necessary to apply bacteria for the production of the cow pea crop, as the seed itself carries sufficient bacteria to ensure a growth even on land in a section where the crop has not previously been grown. The growth is often on such land not heavy the first year, but the second year shows the land to be fully inoculated.

3. This point is not definitely settled, but the best opinion seems to be that this bacteria is available for all varieties of clover.—ED.

Plows.

Please tell us what is the best turn plow for use on

a farm for breaking land. I use "Boy Dixie." Is there anything better?

B. D. BOWDEN.

Craven Co., N. C.

We have no use whatever for the little turn plows which are so much used in the South. They are the cause of much of the unprofitable farming. Get a plow that will turn a furrow at least eight inches wide and six inches deep, and then work can be done which will result in crops. You will find such plows advertised in the *PLANTER*. We always used the Oliver Chill.—ED.

Hairy Vetch.

I am very much afraid that hairy vetch is likely to prove a weed hard to get rid of, and liable to scatter and spread over the farm. Would like to hear from you as to this.

WM. H. BUSH.

Powhatan Co., Va.

There is no reason to be afraid of hairy vetch proving itself a troublesome weed and difficult to get rid of. When not wanted it can be killed out as easily as any crop we know of. It is simply an annual, and if not allowed to go to seed there is an end of it. But even if allowed to seed and spread itself over the farm instead of being a detriment like most weeds, it would enhance the value of every acre of land on which it grows. A good crop of it will put more nitrogen into the soil than a ton of cotton seed meal, besides the vegetable matter which it supplies to the soil. In this way it will supply all the nitrogen required to produce a crop of corn or wheat. A weed which will do this can never be regarded as something desirable to be got rid of. As a feed for stock either green or cured into hay it is one of the richest in protein which can be produced, and there would be just as much sense in desiring to be rid of a crop of red clover as of a crop of hairy vetch.—ED.

Improving Land for Grass.

I have some land which was originally good land, comparatively easy to work. It contains considerable sand, but has red clay spots. Some of this land has been worked hard, having been in corn every two or three years for fifteen years or more, and left in corn beds between crops. While other part has been left in corn beds from five to twelve years, and a portion has grown up in pines, some of this land is cultivated in corn this year; some has been left in beds for three years and is grown up in sassafras bushes, while other has been left in beds, and is covered with small pines. Please advise how best to improve this land and get in grass. It is some distance from railroad, with bad road to haul over, making it very difficult to get lime. Can you advise a plan to get this land in grass without the use of lime.

The land is rolling, with small branches running through it? Also please advise best method of getting rid of very large bramble briars.

Spotsylvania Co., Va.

SUBSCRIBER.

Land which has been worked and treated like this has been is not in a condition to produce grass ^{to} tight away. It must be prepared for the crop by good cultivation and enrichment. We would plow it deeply as soon as possible, and if able would also subsoil it. Then if we could get lime to it even if only sufficient to give it a light dressing, would lime it. It should have from 25 to 35 bushels to the acre at least. We should harrow this in, and then sow part in crimson clover, wheat, oats and rye (12 pounds of crimson clover and three-quarters of a bushel of wheat, oats and rye mixed, and other part seed with hairy vetch, wheat, oats and rye (15 pounds of vetch and three-quarters of a bushel of wheat, oats and rye), and harrow in the seed and roll if dry. This should give a winter cover, and will provide grazing in the early spring. In May we would plow down the crops, apply 300 pounds of acid phosphate per acre and sow in cow peas. In August cut the peas for hay, leaving a long stubble. This stubble we would cut into the ground with a disc or cutaway harrow or a cultivator, and at the same time apply 300 pounds of bone meal per acre and sow to grass alone. Sow 2 or 3 bushels of mixed orchard, tall meadow and red top (herds grass) per acre, with 5 pounds of red clover or alsike clover per acre. Harrow in the seed and roll if dry enough. Top dress with farm yard manure during the winter, and you should get a stand of grass.

The bramble briars should be cut off and burnt, and the roots be plowed up and raked off and burnt.—ED.

Diseased Wheat Ears.

Please let me know what is the matter with these wheat heads. It is not smut, or rust. I noticed them first eight to ten days ago. Parts of the heads were green, parts white. I waited to see what the result would be later, and find only badly shrivelled grains in the white part, but fully developed grains in the then green parts. Only about one-quarter acre is partially affected. I don't think it is rust, as (I think) rust affects the whole plant, and all grains are equally shrivelled. I saw some heads green at both ends and one inch of the middle white.

Lunenburg Co., Va.

CHR. RICKERS.

As we were unable to decide what was the disease affecting the wheat, we sent the same to the Department of Agriculture, Washington, with a request for opinion thereon, and have been favored with the following reply:

Yours of June 28th, asking the trouble with some diseased heads of wheat enclosed, has been referred, through the Pathologist and Physiologist, to this laboratory. These heads are affected in the same way that many other samples are which we have received a number of times this season from other places. The cause seems to be simply the unusual amount of wet weather, together with the general coolness of the season. With a few exceptions the season has been unusually cool, and there has been much rainfall, and the water gathers inside the chaff at the base of the grain, and, soaking the plant thoroughly, prevents further nutrition. Of course, in some cases the grain may be already partly formed, and in other cases it may not yet be started, which will account for the fact that some spikelets are partially filled, others have no grain at all, and still others may have even fully developed grains. The portion of the head where the spikelets are closest together is also likely to be more damaged, as in that case the drying out of the head after the rainfall does not occur so easily. Naturally, varieties of wheat having club heads will suffer most. The pink looking fungus occasionally seen on the decaying heads is not concerned with the injury, but is an accompaniment of the trouble.

M. S. CARLETON, *Cerealist.*

Preparing Land for Wheat, Oats and Pasture.

I have a field of 30 acres under fence I wish to sow to wheat, oats and clover this fall. Twenty acres has been in clover for two years, 1903 and 1904. Eight acres in weeds, broom sedge, etc., two acres poor, thin land. This field has been grazed, but not very close. The twenty acres I wish to sow to wheat, the eight to oats, the two acres I wish to plow and improve. Now, how would you advise me to proceed to prepare this land? Kind and quantity of fertilizer per acre? What can I sow on the poor land this fall to improve it? I wish to use this field as a pasture after harvesting, wheat and oats and one crop of clover. The land is all a gravelly loam, with red subsoil.

J. H. SHAW.

Mecklenburg Co., Va.

The oat crop should be the one first seeded, as winter oats to be a success should be got in not later than the middle of September. Plow the eight acre lot at once, and as soon as plowed apply 25 bushels of lime to the acre and harrow in. Harrow again once or twice before the time to seed the oats. In the second week in September apply 300 pounds of acid phosphate broadcast and harrow again, and sow two bushels of winter oats per acre broadcast, and cover well with the harrow. Then sow 2 bushels of mixed grass seed (orchard, tall meadow, red top Vir-

ginia blue and meadow fescue), and 5 pounds of red or alsike clover and harrow in lightly and roll. In the intervals between working the oat plot have the 20 acre plot plowed, beginning as soon as possible, plow deep. When plowed apply 25 bushels of lime to the acre and harrow in. Harrow and reharrow and roll this piece at weekly intervals until the 1st of October, and then apply 300 pounds of acid phosphate and bone meal in equal parts, harrow in and drill one and one-half bushels of wheat per acre, sowing at the same time with the drill two bushels of the same mixture of grass seeds and clover, as are advised for use on the oats. The two acres of thin, poor land should be plowed at once, have 300 pounds of acid phosphate applied per acre, and be sowed with 10 pounds of crimson clover, 1 bushel of wheat, oats and rye mixed in equal parts, and 5 pounds of red or alsike clover. We have advised the seeding of the grass and clover seed on the different lots in order to meet the requirements of pasturage after the wheat and oats are cut. It may be successful or it may fail. We do not approve the practice of seeding grass in grain crops, as it so frequently fails to make a stand. If the land were ours, and we could dispense with the pasturage until the fall, we would not seed the grass and clover on the wheat and oats, but would disc the stubble as soon as the grain crops were cut and sow cow peas or cow peas and sorghum and graze these off as soon as they were ready, and then sow grass and clover alone. In this way the certainty of securing pasturage would be increased, though it would be later, and a good crop of clover and grass might confidently be looked for the following year.—Ed.

Skippers in Hams.

In the July number of SOUTHERN PLANTER, J. M. Faris asked how to get rid of skippers in meat. To prevent them from getting in the meat, in early spring every few days make a strong red pepper smoke in the smoke house; later, if they should make their appearance, hang the meat on the hottest, sunny side of house as long as required, and they will come out. A month's sun will not injure the meat.

Warwick Co., Va.

W. C. MINER.

Getting Rid of Fleas and Lice.

A subscriber writes us that fleas may be kept out of buildings used for housing stock of all kinds by the constant use of plaster (gypsum) in and about the places. Sprinkle freely upon the droppings and litter. The use of kerosene will rid hogs of lice. Spray it over them or pour a little on the centre of the back

from head to tail, and this will soon spread all over the animal, and the lice will let go at once and quit.—Ed.

Alfalfa Land—Thin Shelled Eggs.

Please let me know which you consider best for alfalfa, branch bottoms or hillside, "not steep."

2. The best remedy for hens laying thin shelled eggs. They have free access to air-slacked lime?

T. O. D.

1. The "Branch bottoms" if the land is sufficiently elevated above the stream to give perfect drainage and keep water from standing on the field will yield heavier crops of alfalfa than the hillsides, as the plants will get a more constant supply of water from the subsoil, which will naturally be permeated with it from the branch. Such hillsides, however, as you describe ("not steep") will, if made rich, grow alfalfa.

2. We can suggest nothing more effective for thickening the shells than a plentiful supply of calcareous matter. We think, however, that this can be supplied in better and more acceptable form than air-slacked lime. Broken oyster shells and rough old mortar from a building or the refuse of a lime kiln are better because more acceptable. In this rough form the matter helps the hens to digest their food, and in the process of grinding in the gizzard becomes assimilated with the food and passes into the system.—Ed.

Beehives.

Please give dimensions and directions for making a Langstroth beehive or some other good hive.

Bland Co., Va.

S. H. HELOY.

You will find hives and many appliances advertised in the PLANTER, and will be able to buy them cheaper than you can make them. We do not have by us any book with instructions for making these hives, and have had no personal experience with them.—Ed.

Parsnip Seed.

A year ago I bought of T. W. Wood & Sons, of your place, some very good parsnip seed, and from it had a good crop; but as I went North in the early winter and remained until May, the parsnips were not harvested. And as my home burned down, I am occupying another house, and they are still standing and loaded with some of the best seed that I ever saw. I wish to save some of it, and this brings me to the object of this letter. When I was a boy (about 72 years ago) my mother sent me to the garden to collect the parsnip seed. Some one present told me to

be careful to reject, either the seed from the main stem or from the branches (I forgot which), as it would produce nothing but small roots, running into the wild parsnip, which is poisonous. Is there any truth in it?

Davidson Co., N. C.

We never heard of such a difference in the seed before, and do not believe there is any truth in the tale.—ED.

P. NORTON.

Orchard Management—Cattle Ticks—Clover Seeding.

Please answer the following questions through the columns of your paper:

1. We have a young orchard six years old with first crop of fruit this season (apples) on thin land, gravelly. Give best method of improving ground to get best results from trees. Could we use some sown crop and not have to cultivate through summer?

2. Where can I find Zenoleum for killing ticks on cattle? Do you know of some home-made remedy? Have been giving sulphur previous to this with fair results.

3. I have a clover sod that I wish to put in wheat this fall and resow to clover again, how much seed will be best to sow. Have cut a good crop of clover (first crop) July 1st. How soon should the second crop be ploughed down? What kind of fertilizer would be best to use on same? Soil is light red, with dark red clay subsoil.

I. H. FAUST.

Randolph Co., W. Va.

The best system of management for a young orchard in the South is to keep the land in cultivation from April until July, then in July and August to sow crimson clover or hairy vetch, with a light seeding of wheat and winter oats mixed, and let this crop cover the ground until the following April, when it should be plowed down and cultivation started; 200 or 300 pounds of acid phosphate and 100 pounds of muriate of potash per acre should be applied before seeding the clover or vetches. Such a system provides food for the trees at the lowest cost, encourages growth at the proper season, and checks and ripens the growth in the fall. If after two or three years of such management the growth becomes too luxuriant, resulting in long, sappy wood instead of the short, sturdy spurs and limbs indicative of bearing wood the orchard should be seeded down to grass in August and the crop be allowed to stand two or three years, according as the trees may seem to require. The first crop of clover and grass may be mown for hay, but the later crops should be mown and left on the land as a mulch.

2. Write the Zenner Disinfectant Co., Detroit, Mich. You will find their advertisement in the

PLANTER for the last four months. Lard with kerosene mixed in has been successfully used by some parties. But we do not think this as effective or otherwise as desirable as Zenoleum or the dips made by Laidlow, McKill & Co., of this city, or as Coopers' Dip, both of which you will also find advertised in the PLANTER. The sulphur remedy is useful, though not a perfect preventive.

3. Plow the second crop down as soon as possible now, as it is essential to the success of the wheat crop that the land shall become compacted again before seeding. After plowing the crop down keep the surface worked every week or ten days with the harrow and roller until time to sow the wheat. Usually from eight to ten pounds of clover seed is sown per acre, but we prefer to sow twelve.—ED.

Sick Hogs.

My hogs are making me weary of trying to raise enough for home use. The pigs begin to cough, many of them, before weaning, then get thin and have a vigorous case of thumps, a strenuous inside movement, I can describe by no better term than thumps, stop growing, and after a long time a portion die. Those that do not are never any good. Will some one tell me what is the trouble, and how to eradicate it?

J. R. SKINNER.

Loudoun Co., Va.

We think the probable cause of your trouble is that you do not let the sows have exercise enough and live a natural life in the pasture and woods. Sows kept closely in confinement seldom farrow strong, healthy pigs, and these lying in hot beds of litter are very susceptible to lung trouble when a cold wind strikes them. Let the sows run at large both when carrying the pigs and after the pigs are farrowed, of course, having a dry, warm house in which to shelter them in time of storms. Keep their beds dry and free from dust.—ED.

Alfalfa—Timothy Chaff.

1. Please give me some information about alfalfa, whether you sow it with other grains or by itself. Where can you get it, and at what price?

2. Would it be injurious to feed to cattle clean Timothy husk or chaff in a mash?

Culpeper Co., Va.

A SUBSCRIBER.

1. In this and last month's issue you will find much information as to the alfalfa crop. You can get the seed from the seedsmen advertising in the PLANTER. The price varies from week to week, but they will gladly quote you.

2. No.—ED.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The various crops of fruit and vegetables which have been the objects of care and attention and have cost both time and money, should be carefully harvested and shipped in the best and most acceptable packages if there is to be a reasonable return for the investment. Do not let products become over-ripe nor yet ship before they are sufficiently matured to show well when opened out. See that before being packed or stored they are cooled off and carefully culled and sorted. Ship only one quality in a package, and mark that quality on the outside, and let the contents grade up fully to the marking. Keep culls at home or ship separately. See that all products stored for home use are put where they will be protected from the weather and have a reasonable chance of keeping well. Use culls and defective products first.

Fall cabbage seed should be at once sown on rich, moist land, and the growth of the plants should be pushed on by watering with manure water and a little nitrate of soda. Dust them with tobacco dust and air-slaked lime to keep off bugs, worms and beetles. The best varieties are Flat Dutch and Savoy. Have the ground prepared for setting out the plants in the first week of September. It should be made rich, and after the plants are set out they should be pushed so that they may commence to head by November.

Broccoli plants should be set out this month. They require the same management as cabbage. Make the soil rich, and push them. They make a head like a cauliflower.

In the Eastern and Tidewater sections of the South Atlantic States sowings of English peas and snap beans may be made. The crop is an uncertain one, as an early frost will ruin it, but if this keeps off until the end of October there is money in raising these products. They are also most acceptable for the home table.

Seed may be sown this month for fall and early winter lettuce plants. Select a moist, shady place for the bed and do not make it overrich. Radish seed may be sown towards the end of the month.

Kale and Spinach may be sown at the end of the month. These should be sown where they are to grow to maturity. Sow in rows two feet apart.

Celery plants should now be set out in the rows where they are to mature. Celery requires a rich, moist soil in order that it may make a quick growth. Make the bed rich with farm-yard manure or a fertilizer having 7 or 8 per cent. of ammonia, 5 per cent. of phosphoric acid, and 8 per cent. of potash. Break the soil deep and make it fine. Set out the plants about 6 inches apart if the variety grown is a self-blanching one, so that they may crowd each other and thus blanch the stalks. If not a self-blanching variety, the plants should be set out in rows five feet apart, so as to provide soil for earthing up to blanch. Set two rows of plants in each row, six inches apart each way. A little soil should be drawn to the plants as they grow to keep them from spreading, but do not earth up the plants to blanch them until they have nearly matured their growth. Water frequently if the weather is dry.

Sow Crimson Clover on all land not wanted for other winter crops as soon as the spring crops are harvested.

Cultivation should cease in the orchard and bush fruit patches so as to encourage ripening of the wood.

Land intended to be planted in strawberries should be plowed and worked so as to encourage germination of weed seeds.

INTENSIVE TRUCKING.

Editor Southern Planter:

I always read with great interest everything from the pen of Prof. Massey. It is not only interesting, but very practical information which permeates all his articles.

In a late issue of the *PLANTER* I have read carefully his article on "The Lettuce Crop" at or near Newbern, N. C., where he speaks of using artificial heat and moisture in raising lettuce, celery, berries, etc., in competition with the Florida crops.

Now, it looks to me from my point of view, that our Newbern trucker friends are getting just a little bit too selfish, too grasping, too piggish in their work, and are trying to secure everything in sight. Latitude, Gulf Stream and altitude gives them an advantage—a great and wonderful advantage—over New York, New Jersey, Delaware, Maryland and Long Island in the matter of growing crops for the early markets, and it seems as if our Newbern friends should be content with that great advantage; but in-

stead of being content, they are using artificial warmth and moisture in order to grow the winter vegetables and thus cut out Florida and other sections to the far South.

It speaks well for Newbern people intellectually, but it is rather an infringement on good morals and manners for them to grasp after everything in sight.

Even here in the Norfolk trucking section, which is the best trucking centre in the United States, we can grow five crops per annum. It seems to us that that is good enough. We do this without resorting too much to artificial means or methods.

It is true, in some cases, the plants are started under cover, glass or cotton, and it is true a wind-mill may be on hand to supply a little water—just a little to keep the young plants growing in the thickly sown beds and prepare them for transplanting in the open fields—but, as a rule, our people question the wisdom of engaging in a large way in the intensive tillage of the soil, such as calls for artificial heat and moisture.

The "Good Master" has promised us "seed time and harvest," and the "gentle rains" fall upon the "evil and the good," and we can get along very nicely without resorting to extreme measures, to get ahead of the "other fellow."

A case in point. A gentleman not far from Norfolk rents a little three acre patch of land, with a good house thereon, paying for the land and house \$250 per annum rent. This leaves him about two and one-half acres of land to cultivate. It is thought that he will easily sell \$3,000 worth of produce from that small acreage of land.

He sowed radishes in December, and then set the land out to lettuce in March. Just before he cut the lettuce crop, he sowed beets between the lettuce rows. Just before he pulled his beets, he transplanted canteloupes by an ingenuous method or twist of the wrist, between the beets, and in this way, if he keeps it up, and "fights it out on that line all summer, "he will beat the record."

He gets four crops in a little less than eight months practically without artificial heat or moisture, and can get at least one, perhaps two, more crops inside the twelve months, making five or six crops from the same land in a single season.

It seems that where nature has done so much, man had best utilize to the fullest extent the natural advantages, without taking such undue, unfair, unkind, unnecessary, unnatural, unprecedented, unjust and unwarranted advantage of their fellow-men, as the Newbern people are doing when they raise the Flori-

da crops all winter, and the Northern crops all summer.

There can't be much "tar on the heels" of the Newbern trucker. Nor does he give the flies any chance to roost on him.

But we give him due notice, that if he persists in his wild career, our people here in self-defense may have to put a glass roof over Norfolk, Nansemond and Princess Anne counties, divert the waters of the Dismal Swamp, James and Nansemond rivers for moisture, and the sun and Pocahontas coal will give us warmth enough to make it hot for those who started this unholy crusade against the perquisites, privileges and pocket-books of the whole Atlantic Coast trucking belt.

A. JEFFERS.

Norfolk, Va.

EXPERIENCE WITH PEAR BLIGHT.

Editor Southern Planter:

Much has been written about the blight on pear trees, and some writers speak very positively on the subject, declaring that it is a fungus disease—that is to say, a disease caused by a growth of minute plants which spring up suddenly like mould, mildew, smut and mushrooms. Dr. Groff says that "fire blight is a contagious germ disease like diphtheria or scarlet fever." In this belief he has the sanction of some of the learned doctors to support him, and is on what is supposed to be the orthodox side of the question, but the common name, "fire blight" indicates that the common people who gave it the name, believed that it was caused by strong heat.

According to my experience, pear blight is caused by sun scald, and the fungus growth which the microscope shows on the dead limbs is the result and not the cause of their death. My opinion is that the fungus or germs come on after the death of the limb, as the sweat on the dead man's face, and the flies and crows come to feast on the body of the dead horse when he can no longer offer resistance to their attacks. I believe the fungus does not make its appearance on the pear trees until after they have been cooked by the sun when shining uncommonly hot.

I had three pear trees of the same age that had borne fruit two years, and were full of nearly half grown pears, when two of them suddenly blighted and the other remained unhurt. One stood on ground lower than the smokehouse, which had been enriched by wood ashes which had been thrown out. Another stood below a hog pen, where the soil had become very fertile by drainage from the pen. Both these

trees had made an astonishingly fast growth, and the bark on the limbs was smooth, thin, tender and full of sap. The other tree stood on the northwest side of the ice-house, on poorer ground, and was partly shaded from the fierce rays of the noon-day sun.

One day about the latter part of June, after a spell of very hot weather, I observed that the tree below the smokehouse appeared to be dead. In one day every leaf had suddenly wilted, and was turning black, and the young pears were shrivelling. The tree presented exactly the same appearance which forest trees do when killed by the heat of a burning "follow," or new clearing in the woods. I have often seen trees standing several rods outside the "follow" that were killed by the heat, no blaze having touched them or been within five rods of them.

On removing the bark from my blighted pear tree limbs before it had begun to dry and shrink, I found it loose enough to make whistles, and the sap, of which there was a profusion, had a reddish hue, and the inside of the bark, which naturally should have been white, was of a yellowish red. The tree below the smokehouse died immediately after being blighted. There was no bother in sawing off limbs—the whole tree was removed.

A writer in the Ohio Farmer thinks the application of a barrel of ashes to the roots of his pear trees saved them from blight. It is my opinion that wood ashes by stimulating its growth was the cause of killing my pear tree, which stood below the smoke-house. At all events a supply of potash in the soil did not save it. The tree below the hog pen had about one-third of the limbs on the east side blighted. These were promptly sawed off, but the tree had received such a severe shock that the next year it died. The tree near the ice-house was not injured, and has borne crops of pears every year since.

As already stated, my experience leads me to believe that blight is caused by sun scald. When the tree has grown unusually fast, the bark on some of the limbs is tender and full of sap. The heat of the sun scalds the sap, causing it to ferment, and this changes its nature from a wholesome nourishment for the limb and its fruit, to a poisonous liquid, which produces death to the parts affected, and then the fungus comes like the mould on the apple sauce or the buzzards to the battle-field to feast on the dead. It is the "blood poisoning" of pear trees. If the heat of fire will kill the hardy forest trees, it is rational to suppose that the heat of the sun at a particular season will injure tender pear trees.

Infancy is the critical period of life in the human family, and also in the life of pear trees. If we get

them safely past the danger incident to this period then their prospect for long life and usefulness would be greater than for apple trees. It is said there are pear trees still growing on the Mississippi river which were planted by the Jesuit fathers 200 years ago. There are three pear trees in a neighbor's garden which, he assures me, are more than seventy years old. We have a large pear tree in our door yard which was set out by my father, and is more than fifty years old, and with an appearance of lasting fifty years longer.

I cannot help thinking that what some pomologists call fire blight on pear and apple trees is not blight at all. Some of the limbs on vigorous growing forest trees die without any apparent cause, except that the trees have put out more limbs than they could support, and the weakest die from lack of proper nutrition. It is a case of the "survival of the fittest." The pine tree when a bush throws out limbs close to the ground, and as the tree grows the lower limbs die, and are blown off by the wind, until when the tree is full grown it presents a smooth trunk straight as a ship's mast, without limbs for 50 or 60 feet from the ground. There is no doubt that limbs on pear and apple trees often die for the same reason without being blighted at all. Of course, they should be sawed off the same as if they had been blighted by the sun or the "germ disease." Some writers say isolated pear trees are seldom blighted. There must be a mistake about that. My pear trees were at least six rods from each other and blighted.

William Saunders, late Superintendent of Garden and Grounds for the Agricultural Department at Washington, in his report for 1892, says: "The fact that bacteria has been found in the diseased shoots of pear trees does not seem to prove that they are the cause of the malady, but that they are simply a consequence of the disorganization and decay of vegetable tissue." He further says: "I have noticed that during the month of May when there was over 30 degrees difference in the temperature within twenty-four hours, nine days thereafter twig blight would set in." He further says that on May 18, 1888, he noted a change of temperature between sunrise and 4 P. M. of 35 degrees, and blight set in on the 27th. In May, 1889, and in May, 1892, he noted similar changes of temperature and wrote to friends predicting that blight would appear in nine days, and it appeared as he had predicted.

Mr. Saunders is very high authority, and he did not believe in the contagious germ disease, and did believe in the sudden and great change of temperature as the cause of the injury. J. W. INGHAM.

Live Stock and Dairy.

MILK FEVER.

Editor Southern Planter:

Since the introduction of the more successful treatment for this disease, much literature has been circulated on the subject, and although the proportioned percentage of mortality under the old treatment has been converted into restoration, very little has yet been advanced which sheds much light on the true character of the disease.

It is not the writer's intention to advance new theories upon it, or yet to invite controversies regarding its character, but simply to give publicity to the results which have been obtained at this Station, together with a brief description of the causes, symptoms, treatment and the appliances for the administration of this new treatment.

The term "milk fever," for this appears to be the one by which the disease is most commonly known, is rather misleading—in fact, altogether so—as it would indicate a feverish condition in which the udder was painful and accompanied by increased temperature, both local and general, and although such conditions as this are not unfrequent they should in no way be associated with the disease under consideration. This term has undoubtedly been adopted on account of its intimate association with the parturient period, when the milk secreting glands are or should be exceedingly active. Other terms (quite as misleading as to its character) are in common use in different localities, among them being parturient apoplexy, parturient fever, puerperal fever, puerperal apoplexy, paralgia, puerperal collapse, calf fever, dropping after calving, parturient paresis, the latter being probably the most expressive and appropriate term, indicating a condition of incomplete paralysis associated with the parturient season, and even here leaves a possibility of error, as parturient paralysis, both anti- and post-partem, are known conditions, which can only be separated from the one under discussion by a careful analysis and comparison of the symptoms.

Milk fever, or more properly parturient paresis, attacks cows in the prime of their life (5 to 10 years of age), in which lacteal development has been great, as in "the improved dairy breeds," and only those to any extent which are in high condition at the time of parturition. It usually makes its appearance in from one to three days after calving, the earlier after that act the more rapidly and certainly fatal is it; it may, however, be delayed a much longer period, but the longer it is delayed the milder is the attack. (The writer recalls one case which occurred in his practice on the 20th day.)

Symptoms.—Parturient paresis usually makes its appearance after a comparatively easy and quick de-

livery, in from twelve to seventy hours. The first symptoms of excitement (when present) frequently pass unnoticed, when observed, they are those of restlessness, stamping of the feet, throwing the head, wild appearance of the eyes, with dilated pupils, belching; the calf, if still present in the stall or lot, is frequently made the object of attack. These symptoms rapidly give way to muscular weakness. The animal staggers, loses power of standing, falls to the ground. Efforts to rise become less and less effectual, until she becomes overcome with the deadly coma which soon follows, from which she never rallies, or else recovers as quickly as the attack made its appearance, and on the second or third day is apparently none the worse for her experience.

A more careful examination of our patient reveals the fact that the udder, which a short period before the attack was full of milk and active, is now slack and empty, soft and flabby to the feel, and less sensitive than one in the normal condition during such period; yields little or no milk, the horns and head are usually hot at the commencement of the attack, but during the period of coma are usually cold; the pulse is always quickened and weak, or may be almost or entirely imperceptible; breathing becomes purely mechanical, the cheeks are usually puffed out at each expiration, and the cow assumes that peculiar position characteristic of the disease, lying propped up, on her breast bone, with the head thrown well around on her side, and unconscious to her surroundings.

Among the diseases for which this might be mistaken, and vice versa, might be mentioned *anti-partem* and *post-partem paralysis*; in either case, while the cow is unable to rise, there is no loss of consciousness, no pervious excitement, lacteal secretions remains active, though reduced, the pulse is less affected, and the appetite, although usually impaired, is not wholly lost. *Mammitis* or inflammation of the udder occurs about the same period after calving, but the conditions are altogether different. In the former (parturient paresis) the udder becomes cold and flabby and secretions are almost, if not wholly, suspended, while in *mammitis* the udder becomes inflamed, hot, painful and swollen, and although it does not yield the amount of milk its size would indicate, it is on account of the inflammatory action existing in the gland, suspending its function. In *mammitis*, too, the cow remains standing, or is able to do so, and is disinclined to move, from the painful character of her condition.

Parturient paresis need not be confounded with metritis (inflammation of the womb), which usually follows difficult delivery, and which is accompanied by a swollen, discolored condition of the genital or-

gans, with fetid discharges, in which we usually find high fever, with suspension of many of the important functions, such as rumination, milk secretion, with constipation and scanty secretion of urine painfully passed, all being the result of infection gaining access to the genital organs through abrasions made in the mucus membranes from difficult parturition. Again, it need not be confounded with injuries to the lumbar regions, causing muscular weakness and a staggering gait, which sometimes follows the parturient act, and where difficulty of progression is the most pronounced symptom.

Causation.—Among the most fruitful causes of parturient paresis may be mentioned high lacteal development, coupled with general plethora, induced by high feeding and want of exercise. A damp season, which yields an abundance of grass, has in the writer's experience been the most favorable for its development. May, June and October, the most anxious months for the dairyman, whose cows come in at those seasons.

Treatment.—Previous to 1899 all manner of treatments were suggested and practiced with varying degrees of success, among them might be mentioned large doses of purgatives, stimulants, blood letting, ice, warmth or blisters to head and spine, according to the practitioner's individual ideas; some gave sedatives and swore by them, but all managed to lose from 60 to 85 per cent. of the cases treated. The writer's observations were, however, able to note this fact, that the men who gave the least medicine by the mouth were the most successful, indicating clearly that too much interference was detrimental rather than beneficial. About that year a Danish veterinarian, Schmidt, turned his attention to the udder as being the source of the trouble, and his experiments developed the fact that a solution of potassium iodide injected into the udder under the most rigid antiseptic precautions, gave surprisingly good results, 50 to 70 per cent. of patients treated by that method making good recoveries. Since then what is known as the oxygen treatment has come into vogue, and is doing even better service than Dr. Schmidt's injection, making it possible to save practically all cases which can be reached early in the attack.

The writer has watched with much interest the development of this most valuable addition to the veterinarian's equipment, and has made attempts at the development of practical appliances for the safe and effectual application of the treatment. The object

of this is to bring these appliances to the knowledge of the practical dairyman, and thus to relieve him from the everlasting dread of losing the choicest of his herd. Ambition to develop his ideal producer was held in check by fear of this disease, from which, when he had overstepped the threshold of safety he saw his best cows life snuffed out in a day.

It is known that pure air contains one-fifth by bulk of oxygen, and that in this form it is readily absorbed and appropriated by the tissues, and that the other gases are non-injurious to the tissues of the udder when uncontaminated. Advantage, therefore,



CHARACTERISTIC POSITION

of cow suffering from Parturient Paresis, and position in which she should be kept while comatose.

has been taken of this, and a supply of pure air pumped into the udder produces the desired effect almost as quickly and certainly as purified oxygen, but requires greater care in its introduction than the former (oxygen purified) on account of the contamination it is liable "dangerously so" to contain. While there may be no great risk in introducing air, as it occurs in an open field or lot in the entire absence of dust, and presence of bright sunlight, there can be no question of the danger from the introduction of air into the udder in a dirty or even moderately clean stable, where other animals are housed, as such air is known to be highly contaminated with bacteria, the introduction of which have been proven not only injurious but fatal to the patient so operated upon by producing infective inflammation of the glands. The writer recalls a most disastrous incident which occurred in a prominent Show ring, where contamination was pumped into the udders of upwards of a score of the best show cows for fraudulent purposes, every one of which succumbed to its deadly effects. While in itself a disastrous occurrence, this proved a valuable object lesson.

JOHN SPENCER, Veterinarian.

Virginia Experiment Station.

(To be Continued.)

HORSE BREEDING IN VIRGINIA.

Editor Southern Planter:

The remarks of David Swift, in your July number, bring up a great many questions of vital importance to the farmers of Virginia, who want to see the State grow to the place she should among the sisterhood. A life spent among horses, with an experience begun in Iowa, of careful training by a father who is a horse breaker and breeder of success, with a knowledge of the best of studs of the Central States, with considerable experience on the White Star SS. Line, and a careful study of the conditions as they exist in England and Scotland, induces me to offer some opinions on Mr. Swift's questions. In the first place, the horses of this section cannot be said to suffer from inbreeding, except, maybe, in the case of some man who has a colt that he has been foolish enough to save and breeds his dam, his daughters and all his progeny back again to the same horse, as I have seen in a few instances.

The one thing in which the United States breeder has made the worst mistake, and the reason that we are still going back to Lincoln and to Renfrew for such numbers of stallions, is, we have not bred to any purpose. I am not a fast horse man, still I do not want to decry the standard bred or the thoroughbred, in any way; I am proud of the work of the American fast horse breeder. But I want to say as strongly as I know how, common farmers, leave the fast horse and the light harness horse severely alone. You know nothing about the business, you might raise a dozen Lou Dillons and Star Pointers and you would never know it, and if some man was there to tell you, you could not train or perfect them so that they would benefit you. The raising of speed is a lime-time business, and the farmer has no business to follow it. If any man who is in that business who knows, and knows that it is the work he is fitted for, should read this, please pass on, this advice is not for you.

There is an unsatisfied demand for draught horses in the cities, for horses weighing upwards of 1,600; this is fact one.

Now, these horses can be raised by almost any man who will breed for that definite purpose, and can be marketed without training; this is fact two.

Now, let us see the way it will work. Suppose Mr. Swift breeds the best mares obtainable to a Shire horse, which is my preference. Under present conditions he will have to go and buy, and as they are very scarce in this State, after looking for a horse, he will come home and try to put in prac-

tice some of the methods he sees in use in the horse breeding States. The common mares will be good enough for him to start with. If he feeds well he can raise a work horse that will weigh around 1,300 or 1,400, and it is poor policy to soak himself for a big lot of money till he learns how to feed and care for his colts. He should save the best mares from this first cross, and the next time he goes to buy a horse he will buy a better one for less money than he knew how to buy the first time. From this second cross he may market a few good enough for bussers or delivery horses, meanwhile he will have some good, stocky farm horses. By this time he will see his way to buy one or two pure bred mares, and be fairly launched on the horse raising world. To start out after this fashion takes time and work; on the other hand, it is surer, and maybe just as quick as buying a lot of expensive breeding stock at first. If the farmers would learn what it is that is wanted in the cities, also what is wanted for farm use, and the way to raise them, it would not be long before they would have a money making business, and at the same time have teams to work their land without going to the Mississippi Valley to get them.

I am not sure that the Shire is the best horse for this State. The feather on their legs, though I like it, has to have care in our winter mud. Many men are turning their attention to mule raising, but they should remember that to have a good mule country, they must have a big horse country first, for they are dependent upon the horse raiser for their mares. There is undoubtedly good money in mules, though Virginia farmers must learn to feed. I have seen mules that would, with proper feeding and care, have made 1,100 pound mules, grow up to 900, which means a big loss in price. One often hears it said that stock does not grow here like it does in the West. I am satisfied, and well-informed men tell me the same, that there is no country on the foot-stool where live stock will generally do better than in Virginia. It is in the men who dish out the feed. A whole chapter could be written on this subject.

In conclusion, let me restate the case. If the farmers of Virginia will breed with a definite, studied purpose, with the care that the trotting horse men have exercised, it will not take long to have the finest farm teams, and also a greater number to market. To learn of the requirements and possibilities, they need to go to countries like Central Illinois or cities like Chicago or Toronto.

A stallion of the draft breeds, of common to fair quality will be hard to buy for less than \$2,000 at

the present time, and mares also are very high. There are quite a number of Percherons in Northern Virginia, but most of them were saddled off on men who knew very little of what they were buying, and they are of the commonest type. It pays to take a little time and start out on a still hunt, if one is going to buy.

WM. F. WOODS.

Charles City Co., Va.

THE HORSE FOR THE FARM.

Editor Southern Planter:

Seeing an inquiry as to the best breed of horses for the farmer to raise in a communication from Mr. David Swift, of Louisa county, I will try and give some good reasons for recommending the Percherons.

I use and breed nothing but the pure bred Percherons. I keep my mares breeding every year, and do all the farm work, hauling, etc., and work my stallions when they are not making the season.

I have mares ranging in weight from 1,600 to 1,900 pounds, and a pair of my largest mares walk faster to mower, cultivator and plow than any team I ever owned. One of them is sixteen years old, and has never been struck with a whip that I know of. My others are as good, but not quite as fast at the walk. Mares of 1,600 pounds in weight carry a plow through stiff soil and heavy soil by their weight in the collar. An erroneous idea seems to prevail that the big ones cannot stand harrowing as well as the lighter horse, as they are said to sink deeper in the soil. This is too absurd for argument. The big Percheron has a foot in proportion to his size and weight, and does not go as deep as the light horse or mule. The man who tries farming with a big team will never go back to the lighter class of horses nor to mules, that cannot raise a colt every year, etc.

We have in this (Rockingham) county seventeen registered Percheron stallions and Clydesdales, and one Belgian, and all do big work in the stud every spring. Why? Because our market, Harrisonburg, is the best in the State. We have Pennsylvania, Maryland, West Virginia and New York buyers visit us to buy our surplus horses every third Monday in the month. One of the principal reasons why our county is the wealthiest in Virginia, taking out the cities, is because our farmers raise big, marketable horses. Numbers of our most prosperous farmers buy up all the good, big grade draft colts at weaning time at from \$50 to \$60 per head, and raise them for market. They can be put to work at two and one-

half years old and used one and one-half years on the farm, and then be sold at four years old at big figures. I have sold colts, pure bred, at the following ages and received these figures for them: One 6 months old stud colt, \$450; two yearling fillies, \$800; one 2 years old stud colt, \$600; one two year old stud, \$700; one 2 year old stud, \$950; one 5 years old, \$600; one 4 year old, \$800; one 2 year old filly, \$200; one two year old filly, \$200, and a number of aged mares at from \$275 to \$500. Now, as to the gray color, I prefer it. Why? Because everything else being equal, the gray gelding will bring from \$10 to \$20 more on the city markets than any other color. The reasons given by city users and buyers are these, the gray Percheron never fades and seldom ever gets flea bitten. They can stand more heat, and the color stamps them as Percheron grades, and the Percheron carries a better middle on less feed, can stand more hard usage, has better feet, and a more active disposition than any of the other draft breeds.

I once got the dark color craze, but experience taught me better. I still have two blacks, two bays, one roan and one brown, and in the last eighteen months I have sold four blacks, and before this appears in print another black will, I think, be sold and shipped. I bought a 2,108 pound colt under three years old this spring and paid a big price for him to take the place of a 2,200 pound stallion I had been using for five years, and although I could have bought a black from the same party for about half of what I gave for this colt, I preferred the one I got, and especially his dark gray coat.

I think Mr. Swift's preference for the Shire comes from a lack of knowledge of the breed or his acquaintance with one that was an exception to the most of them. My advice to him is to take time to investigate the matter before making an investment. Last winter at the sales of pure bred mares and stallions in several Western States, notably Illinois, Wisconsin, Kansas, the Percherons averaged more than twice as much as any other bred, and one lot sold was part of Col. Holloway's Shires and Clydes, and he has the greatest prize winners of the breed on this side of the sea. Ask F. F. Berry & Co., horse dealers; Newgrass & Co., dealers, Chicago, Ill.; I. H. Dahlgren, horse dealer, New York, and the following users of drafters, and see what they say as to best draft horse for use, and wear on city streets: Swift & Co., Armour & Co., Jacob Koehler, Schwarzschild & Sulzberger Co., Montgomery Ward & Co., and many of the great breweries of the city of Chicago,

Milwaukee, and, in fact, any city, and see what they have to say. Take the country over, and see the great increase of users of the Percheron and the great decrease of the other draft breeds and the effect has not been produced without a cause.

Mr. Swift is all right in regard to the SOUTHERN PLANTER, the ordinary farmer can get the value of the cost of one year's subscription from each issue of your journal, and may it and its editor "live long and prosper." is the wish of all of your subscribers. one of which I always expect to be.

Rockingham Co., Va.

JOHN F. LEWIS.

THE FARM HORSE.

Editor Southern Planter:

In your July number, page 472, Mr. David Swift, of Louisa, asks that some one who has had some experience with the larger breeds of horses in this State, please tell him which breed of draft horse was best adopted to our country, and was the best to raise for farm purposes.

During the last few years I have paid special attention to this subject, and shall be glad, through your well-known journal, to give him my opinion of the breed of horses that is best for the farmer to raise for farm work. The Percheron is undoubtedly the very best draft horse that has ever been imported into this country. And when the Percheron stallion is bred to good, well-shaped, sound, Virginia mares that weigh not less than 1,200 pounds, the result of this cross will always give a well-shaped foal, which, if properly cared for, will make a horse that can do all kinds of farm work, and also a horse that can trot along the road to a wagon, pull a good load, and work every day. Again, the young horses of this breeding will sell for a good price when they are four years old, as the large cities pay from \$400 to \$500 a pair for these young horses, and they are hard to find for that money. Keep the young mares, however, and sell the geldings, as the mares will do the farm work and bring a colt each spring, too. The Shires and Clydesdales are both too slow and plethoric for the road, and a good farm horse must be a good road horse, too, or he will not fill the bill as he should.

The Percheron will do well anywhere in this State if you will only give him a chance. As to the gray color, that is to his credit, as it is a sure indication of his Arabian blood—the blood which every pure bred Percheron possesses to a greater or less degree. Some people will tell you that the Percheron has bad feet. But I tell you that these bad feet are caused

by the ignorance of the blacksmith, and are not characteristic of the breed. You would not undertake to walk behind a plow all day with a pair of low quartered, high heeled shoes on your feet? Then why expect a horse that weighs 1,500 pounds to wear a narrow shoe that simply causes the rim to be pressed from his hoof by the mere weight of the animal? Horses, as well as people, should, according to their size and nature of their work, have their shoes made to protect their feet, not ruin them.

However, the farmer is not going to make a success at raising any particular breed of horses until he first learns to correct some of the many mistakes which most famers make in this State—viz.: In the first place, they expect too much of the stallion; it matters not how good the individual is or what his breeding is. Men are too apt to point to a poorly shaped, half starved, ungainly looking colt and say that he is by such a stallion, giving the sire the credit of all the colt's failings, without ever stating that the colt was out of the poorest mare that he ever owned, and that the only reason he bred the mare was because she was not fit to use, and that the reason the colt was not any larger was because it had never had enough to eat since its birth. The stallion cannot do more than his part. You must feed the foal and its mother, then feed the colt after the same has been taken from its mother, and continue to care for and protect the colt until he is four years old, and then you will have a horse worth owning, and very little trouble to sell for a good price.

Remember that "like begets like," and never breed an unsound horse, male or female, unless you want to take chances on producing a colt that will show some unsoundness before it is ever developed. Do not use animals with spavins, ring bones or any other constitutional trouble for breeding purposes. And above all, never breed to a blind horse, or allow a blind mare to be bred, unless you know that the animal lost its eyes from a mechanical cause. See that your brood mares are not roughly treated. A good driver is a man who loves his team, is never willing to see them overloaded, or go without a feed at the proper time, and does not let them suffer for water.

J. G. FERNEYHOUGH, *State Veterinarian.*
Blacksburg, Va.

THE HORSE FOR THE SOUTHERN FARMER.

Editor Southern Planter:

The great cause of so many small horses in Virginia is the introduction of cheap Southern and Texas stock. Now, if Mr. David Swift will come

to Southwest Virginia and get one of our Norman (Percheron) stallions to cross on his small mares, he will find it to produce just the farm animal he needs. There is an imported Norman in this county that can be bought cheap, as he has been here six years, and to avoid inbreeding his owners will sell. This horse was bought by a company of farmers, ten in number, from a New York importer for \$1,250. He is a coal black and weighs 1,800 pounds, and can be bought for less than \$400. He changed owners two years ago and sold for \$400. Stop trying small mares, stop inbreeding, and breed to none but the best of the kind wanted. \$15 insurance is cheaper than \$5.

W. H. TINSLEY.

Roanoke Co., Va.

THE HORSE FOR THE VIRGINIA FARMER.

Editor Southern Planter:

I also am a subscriber to and admirer of the grand old PLANTER, as well as Mr. Swift, whose article I note in July issue on the farm horse. This has been a question that disturbed this locality for some time, and does still to a certain extent, and his article, with the request of the editor, for some one to answer, has moved me to give my small experience along these lines. Fifteen years ago I became disgusted with the quality and weight of the farm horses locally, and bought an imported Percheron stallion, at a cost of \$1,200, a direct descendant of M. W. Dunham's great Brilliant, black, and weighing about 1,600 pounds, a horse of fine action and carriage, and crossed him on the best bred and formed mares I could get of good size, and got horses that were "A one," weighing 1,300 or 1,400. I stood him in this (Gloucester) and one other county, and made money. though at first the public said it was too extreme a cross, but the proof of the pudding is in the eating. and now that I have sold him, and gone to breeding mules from the large half bred mares, those who did breed ask me all the time why I do not get another one, though some are following my example and breeding to my Jacks, because they see there is more clean money in a good three or four year old mule (or at any age) than even a good three or four year old grade Percheron. I vastly prefer the Percheron to the Shire, especially in this climate, and I know this breed will take better with the public as a stud horse.

One of my neighbors leaves to-morrow to purchase another horse of this same breed, and while at this time there are no young fillies for sale, Mr. Swift

can buy in a year or so all he wants for about \$100 per pair at five months old, but I would say to Mr. Swift that I know from actual experience there is more clean profit in raising good mules than anything along these lines, and though he may say I have written this to make the remark I am about to, I will state I have two Jacks, and need but one, and will let any one take their choice.

W. S. MOTT.

Gloystester Co., Va.

THE FARMER'S HORSE.

Editor Southern Planter:

An inquirer in your July number asks what kind of horse is the best for a farmer to raise, stating his mares weigh eight hundred and fifty pounds. If he is not able to buy both larger mares and a horse of the same type, let him buy a pure bred Percheron stallion and breed his small mares to him, and he will find a great improvement in size and farm usefulness. Keep his mare colts and continue breeding to the large horse, increasing the size each cross. Once he begins using large horses he will have no other, and should he be fortunate enough to raise one he thinks too large he will have no difficulty in disposing of it at a remunerative price. No country is better adapted to raising horses than his. Color has but little to do with the selling qualities of a first class heavy horse, and these are the only horses that can be bred with any certainty of getting what you breed for. Some farmers in the West prefer some of the other draft breeds, but the Percheron, as a draft horse, stands higher in America than any other. They are kind, gentle and easily broken to work anywhere, and consume as little feed as any horse doing the same amount and kind of work. If, as he says, he wants to buy some mares, he will find the best ones in the hands of farmers, who believe in keeping that kind, and to be induced to dispose of them a fancy price must be offered. If he is at all doubtful as to the utility of heavy horses on the farm, let him buy a pair and plow them along with a pair of small ones, and he will need no further argument. By all means let him keep away from grade stallions. Cheap grade stallions have cost our country untold wealth, and all such should be prohibited by statute. The Valley of Virginia and the Southwest know the worth of these horses, and will have nothing but the best.

ROANOKE CO.

Roanoke Co., Va.

In writing to advertisers, mention PLANTER.

The Poultry Yard.

THE BEST KIND OF GRAIN FOOD.

We are often asked the advisability of feeding poor, cheap wheat, shrivelled oats, or grains that have passed through a fire and become almost vegetable charcoal. None of these grains will prove valuable foods for the fowls. While they do contain more or less of food value, it will be necessary for the fowls to eat very much more of the shrivelled, imperfect grains or screenings to gain the proper proportion of foods to sustain body, life and egg production. The feeding of the charred or partly burned grain provides an excess of vegetable charcoal for the fowl. A very large per cent. of the burned portion of the grains is little better than ashes from the stove. Such grains contain no substance, and add no benefit or improvement to the fowls' condition. A reasonable amount of good, clean charcoal is good for the fowls. It helps to sweeten the crop and gizzard and influences the condition of the fowl very much as a soda tablet will benefit the dyspeptic after a meal.

If you are feeding a whole lot of chickens that you do not care either to gain a profitable egg supply from or to feed up and prepare for market poultry, it may be practicable to feed them almost anything that they will eat, but when you are keeping your poultry for the purpose of having plenty of eggs and eggs of high quality, and fine-flavored fowls in the best of health and condition, then feed your poultry the very best quality of grain it is possible for you to obtain. One poultryman of our acquaintance pays fifteen cents a bushel over and above regular market price for the general run of wheat, to be supplied with the choicest and plumpest of grains.

The oatmeal factories will not purchase light weight oats. This is why hulled oats are usually of the very best quality. At times it will happen that in hulling the oats in the mill where oatmeal is made that some that is rather light for making oatmeal will be hulled. This, of course, is always sold with the hulled oats that is sent out for poultry or other stock to eat, at the same time even this is far above the average of the oats that is usually bought to feed to poultry. When asked what kind of grain is the most profitable to feed to poultry, we say absolutely at all times the soundest and most perfect that you can obtain, providing your purpose is to have a profitable egg yield during the winter. If you are not particular as to this, less attention may be given the selection. It is the habit of many to put corn into the oven and heat or brown it a little for the poultry during the cold or winter months. This cannot in any way injure either the corn or the poultry, but doubt very much the statement or claim of some

that corn so prepared is responsible for an increased egg yield.

Protein of the proper kind and quality and in the proper amounts has far more influence over the egg yield than has all the charcoal or parched corn in the world. Poultry will always obtain plenty of fat-forming foods to provide the fatty part of the egg. Lard is usually supplied plentifully enough to furnish the egg shell, but albumen or white of the egg is the finest of all albumen and its making calls for the very best quality of protein.

Meat furnishes the best of these. Raw, lean meat we presume would be by far the very best, but this is entirely too expensive to furnish a full supply to the hens, so it is necessary to feed them grains of the better qualities strong in protein. Oats and wheat furnish this to a large extent, and this is why oats, wheat and a little cracked corn with some green bone are said to furnish a perfect ration for the egg producing hen.

In the feeding of hens you must consider at all times the liability or possibility of what the hen may eat or drink tainting the value of the eggs. Filth or dirt of any kind, onions, too much cabbage, and turnips are just as liable—in fact, just as certain—to taint the eggs as they will taint the milk of a cow that is fed on them.—*The Feather*.

COW PEAS FOR POULTRY.

Cow peas for food for poultry were harvested after maturity, stored in dry lofts and thrown to the fowls in scratching pens, where they were scratched over and searched for during the day.

After a few days the egg supply very visibly increased, and within a few weeks almost doubled that from an equal number of hens kept in separate quarters and fed on other grains.

The hens seemed to like the small branches and leaves, and would eat every particle except the hard, stiff stems. The general health of the flock was excellent, and not a single hen showed the least symptom of ailment during the winter season.—*Southern Agriculturist*.

It is not always convenient to procure a supply of cane sorghum seed, but in some localities it is as common as corn. It makes a good poultry food, stimulating egg production and adds variety to the daily ration.—*Commercial Poultry*.

The Horse.

NOTES.

The black stallion, Burlington has recently been purchased by J. E. Lane, of Esmont, Va., and placed in the stud at Woodmonde and Hattondale Farms. Referring to this handsome and exquisitely finished thoroughbred son of Powhatan, "The Thoroughbred Record," of Lexington, Ky., a widely recognized authority, says: "J. E. Lane, of Esmont, Va., has obtained for use in the stud the great race horse and sire, Burlington, 'the gentleman in black,' as he was known while on the turf. Burlington was a capital race horse, winning among other races the Criterion stakes and Pelham Handicap as a two-year-old. At three he won the Brooklyn Derby, Belmont, Trial and Tidal Stakes from the best of his day. Burlington is by Powhatan (son of imp. Leamington and Maiden by Lexington) out of imp. Invercauld by St. Albans, she out of Eleanor by Voltigeur, she out of Themis by Touchstone, she out of Rectitude by Lottery, etc. This is the No. 9 family of the Bruce Lowe figure system, from which come Mercury, Bendigo and Peter, a great racing and producing family. Mr. Lane has a number of grandly bred mares and in looking for a suitable stallion to mate with this band of matrons he purchased of Catesby Woodford, Para, Ky., the handsome son of Powhatan and Invercauld. McClary, Practice, Aileen Wilson, Yours Truly, Quincy and Miss Hume, other good winners are by Burlington, and with the excellent opportunities that Mr. Lane will give him, taking into consideration his great record as a high-class race horse and excellent breeding, he should receive liberal patronage from breeders."

At the sale of horses in training by the Fasig-Tipton Company, New York, held there recently, C. F. Dyer disposed of three head of Virginia bred two year olds in Red Reynard, bay colt, by imp. Fatherless, dam Miss Rhoddie, by Milner, Renault, bay colt, by imp. Charaxus, dam Merry Maid, by Eolus, and Axis, chestnut colt, by imp. Charaxus, dam Ethie, by Eolus. Rey Reynard went to H. C. Schultz for \$1,000, Renault to W. C. Michael for \$150, and Axis to Alex. Shields for \$100.

Dr. James Kerr, of the Antrim stud, Warrenton, Va., has lost by death, due to accidental causes, the bay mare Aunt Bella, by imp. Ardington, dam Aunt Sally, by Salvator. This mare was cut down in a steeplechase at Fredericksburg last month. She was not large, but well formed and handsome, and valued on account of rich breeding and speed.

Ellerslie bred horses were in evidence at the recent meeting at Fort Erie, Ontario, where Minotaur, 4, by Eon, dam Mermaid, Eonie's dam, by imp. St. Blaise; Mistiss, 2, by imp. Fatherless, dam Eostee, by Eolus; Chamblee, 4, by imp. Charaxus, dam Cantey, by Eolus, and others from that noted Virginia breeding establishment earned winning brackets.

Among the mares sent from a distance and bred to Kelly, 2:27, during the present season may be mentioned Juno Wilkes, 2:27, a large, handsome chestnut, daughter of Victor Wilkes and Nelly Lambert, dam of Madge Wilkes, 2:29 $\frac{3}{4}$, by Daniel Lambert. She is owned by Capt. W. G. Sills, of the United States Army, whose regiment is now stationed in Texas. Along with Juno Wilkes came her foal of 1904, a well grown, handsome chestnut colt, by Suffix, son of Superior, 2:17 $\frac{1}{4}$.

Manager Joel Cochran, of the Albemarle Horse Show Association, Charlottesville, Va., is sending out quite a handsome catalogue of the prizes to be distributed there during the annual exhibition of this well-known and popular organization, to be held on August 3d and 4th. Charlottesville is the central point of an important breeding and grazing district, one which furnishes horses able to go out and win important events on the big race tracks. Charlottesville is quite an important railroad centre, too, hence being easy of access the annual Horse Show is an event looked forward to for months ahead in that section, and since its inception has always been accorded generous patronage. The prizes have been enlarged this season, and other important classes added to the programme this season, which renders it even more attractive than formerly. Secretary F. B. Treiher and Treasurer A. V. Conway are earnest co-workers of Manager Cochran, while other officers of the association include such men as E. O. Meyer, president; H. E. McGruder, first vice-president; George B. Goodyear, second vice-president, and C. Ruffin Randolph, third vice-president.

W. C. Dyer, Roanoke, Va., is working for speed the pacers, Little Belle, 2:13 $\frac{1}{4}$, and Sport, 2:22 $\frac{1}{4}$, and a half dozen or more green trotters. Dyer's horses are quartered at the half mile track of the Roanoke Fair Association, and all of them are doing well. Among the trotters in his charge are Capt. Cook, gray gelding, 4, by Jack Cook; Lady Dudley, by Norfolk, dam Filigree, by Mambrino Dudley, and a couple of promising fillies, both four year olds, by Red Leo, 2:26 $\frac{1}{4}$.

BROAD ROCK.

Miscellaneous.

THE NEW DIRECTOR OF THE VIRGINIA EXPERIMENT STATION.

We have pleasure in presenting a likeness of the gentleman who has just been appointed Director of the Virginia Experiment Station and Dean of the Agricultural Department of the Virginia Polytechnic Institute at Blacksburg. We hail this appointment of Prof. Soule as the beginning of a new era in the agricultural advancement of the State. He is a young man of untiring energy and perseverance, wholly devoted to his profession, who has by his ability and marked individuality made for himself a



PROF. A. M. SOULE.

noted position amongst the teachers of scientific agriculture throughout the country. The son of a Canadian farmer, and brought up on the farm, he knows practically the difficulties and wants of the farmer, and he has shown by the work he has done at the Tennessee Experiment Station and Agricultural College, and by his articles in the leading agricultural journals of the country that he is ready, able and willing to help in the solution of the every-day problems of the farm. We count Virginia very fortunate in having secured his services. In this issue will be found an article from Prof. R. H. Price, giving further details of Prof. Soule's work in the past. Prof. Price and he were co-workers for some years at the Texas Experiment Station.

In writing to advertisers, mention PLANTER.

A STATE FARMER'S ORGANIZATION NEEDED.

Editor Southern Planter:

In several Southern States there are successful farmer's organizations. Various sub-organizations, such as stockmen, dairymen, nurserymen, horticulturists, etc., come together for a two or three days' meeting. Each division or section meets a few times by itself to discuss matters purely personal, but all sections come together in a body to discuss matters in which all are interested. Now, why cannot Virginia have such an organization? In all such successful organizations the politician is kept in the background. Leading scientists and experts are invited to address the meetings, but no politician. We need such an organization to get appropriations and laws passed favorable to agriculture. We need such an influence upon our young men now engaging in agricultural pursuits. There are still men left in the State who do not think it exactly honorable to work on the farm. The only true gentleman, in their opinion, is the one with "lily white hands," a man of leisure. We want all such men to "rub up against" a strong farmer's organization.

There is a good horticultural organization in the State, and its influence for good has been great. Large organizations have much influence on the railroads in securing favorable freight rates. When the requests of our agricultural boards are backed by a strong State organization they will have much weight before the Legislature. Other interests organize, why not have an organization of farmer's interests. Why should he remain solitary and alone with all the parasites trying to feed upon him. The farmer's occupation is honorable and most noble. But for sympathy and co-operation he must look to his brother farmers, and not to those whose interests are entirely different. "In union there is strength." Let us organize. We can do it if we will.

Montgomery Co., Va.

R. H. PRICE.

PLANT FOR NAME.

Enclosed find a weed which is a very obnoxious one. Please give name of it in next number of the PLANTER.

Giles Co., Va.

SUBSCRIBER.

As we were unable to identify the plant we sent it to the Department of Agriculture, Washington. The Botanist, Prof. Dewey, writes us that it is yellow hawk weed (*Hieracium praealtum*). He says that

this is the first record he has of it South of the northern boundary of Pennsylvania. In the section from northeastern New York to Maine it is known as the "King Devil Weed," and is regarded as the worst weed in that region. It is propagated not only by its seeds, but by underground root stalks and by runners above ground. It has been found that the weed may be killed by the application of salt at the rate of about 300 pounds to the acre. In Vermont, where this remedy was tried, the salt improved the growth of Kentucky Blue Grass.—Ed.

GRASS SEEDING FOR HAY.

I have eleven acres of gravelly upland I want to sow in grass alone this fall to make hay next summer. Which would be the best grass to sow? How much per acre? What time is best to sow? What kind of fertilizer should I use, and how much per acre? Would you recommend sowing any nitrate of soda on grass in the fall? W. M. H.

Rockingham Co., Va.

In our article on "Work for the Month" in this issue will be found advice as to seeding grass, which will answer most of the above queries. On page 479 of the July issue will be found Mr. Clark's formula for the fertilizer which he uses to secure his great crops. We approve the same for use here in the South, except that we would not apply the nitrate of soda in the fall when seeding the crop, but would use the same as a top dressing in spring after the crop has commenced to grow.—Ed.

A NEW DIRECTOR ELECTED FOR THE VIRGINIA EXPERIMENT STATION.

Editor Southern Planter:

Prof. Andrew MacNarvin Soule, of Tennessee Experiment Station, has recently been elected Director of the Virginia Experiment Station and Dean of the Agricultural Department. I consider the Board very fortunate in securing his services. Working with him at the Texas Experiment Station for three years, I found him to be an able and hard-working officer. His work at the Tennessee Experiment Station has taken high rank. He has built up the agricultural work there immensely. He also is an able teacher. His influence with young men is excellent. I expect to see much larger numbers of young men take the agricultural course under his management. He is a strong young man, both mentally and physically. A native of Canada, he was educated at Guelph Agricultural College. He worked a few

years at the Missouri Experiment Station, and his later work in Texas and Tennessee at the Experiment Stations, make him very familiar with our Southern ways and customs. I consider him one of us. He married a Southern lady. I think it will not be long before the State will feel his strong influence along agricultural lines. He is a man who spends money in his agricultural experiments, and the Board will have their eyes opened when some of his requests go in for agricultural equipment and experimental work. Instead of spending something like \$12,000 for salaries out of the Federal appropriation of \$15,000 for station work, the Agricultural Department alone will need more than the three thousand dollars left. I want to see more of this Station money devoted to true Station work. The farmers of the State have a very strong representative along these lines in Prof. Soule. While the Board is to be congratulated upon its wise selection, it appears also that the Board has given him latitude for excellent work. Under his management I expect the Station to be taken off the "side track" and be placed on the "main line," for which it was intended. Now, if the Board could get a man to do creditable work in the position Prof. Alwood has recently resigned, and to work with Prof. Soule, of mycological lines, and with the completion of the new agricultural building, the Virginia Experiment Station would be making rapid progress. Many changes are taking place both in the College and Station, and we hope all will be for the better. As a farmer, I desire to give credit where I think it is due, and to offer suggestions for improvement where I think they are needed. When the State Experiment Station starts off well, we want to turn our attention to the State Department of Agriculture.

Montgomery Co., Va.

R. H. PRICE.

DISINFECTANTS AND LICE KILLERS.

The July issue of the SOUTHERN PLANTER contains some suggestions upon the subject of gaps in chickens, in which carbolic acid is recommended as a remedy.

There is something about the use of carbolic acid that reminds one of the glorious Fourth, just past. Last year, the year before, and the year before that many people lost their lives from explosions, accidental discharges, and the ensuing complications. Every person who handles fireworks knows full well that he is running a risk. Nevertheless when July 4, 1904, came it found plenty of enthusiastic people ready to assume this risk and eager to par-

ticipate in the celebration with toy cannons, giant crackers, bombs and torpedoes. Some of those very people who said to themselves on July 3d that there is really no danger, if one is careful, are now crippled or dead from wounds inflicted by fireworks.

So it is with the farmer or poultryman who persists in using poisonous and caustic drugs in the drinking water and food of his animals. He has never had an accident, and therefore assumes that he never will have one. Sooner or later, however, there comes a time when a mistake is made and disastrous results follow. A child gets hold of the bottle that has been carelessly left within his reach, the contents are mistaken for something else, or an overdose is given, and a heavy penalty is the result.

There might be a ghost of an excuse for this pernicious habit of using deadly poisons if there were no substitute for these dangerous drugs, which has not their poisonous qualities. Carbolic acid, bichloride of mercury, chloride of zinc and preparations of a similar nature are disinfectants, but they are also deadly poisons. It is difficult to understand why people will persist in handling such drugs when there are efficient disinfectants which are relatively non-poisonous to the higher animals.

Kerosene and kerosene emulsion are also much used about poultry houses and stock barns. Every person who uses them will admit that they are exceedingly disagreeable to handle, and that there is always an element of danger connected with their use. There is also another objection to the last two products mentioned. It should be remembered that in the care of all live stock there are two classes of parasitic organisms to be combatted. First, there are the insect pests, consisting of lice, ticks, fleas, mites, etc. Any preparation which destroys these pests is termed an insecticide. The other class of pests which must be destroyed in order that live stock may be in the best and most healthy condition is the disease germs. Cholera, roup, distemper, glanders, and a multitude of other disorders are brought about by the presence of minute germs, quite different from insects. The preparation which is used to destroy these pests is termed a germicide or a disinfectant. An awkward and antiquated method of combatting these two classes of pests would be to spray or sprinkle the buildings first with an insecticide, then with a disinfectant. An insecticide is not necessarily a disinfectant, and vice versa. However, there are solutions and emulsions which possess the qualities of both. The coal-tar carbolic preparations have been demonstrated to be efficient destroyers of

insects and disease germs. Therefore, a more proper and progressive method of ridding the premises of the two classes of pests is by spraying or sprinkling with a solution, which is an insecticide and also a disinfectant. Notwithstanding the fact that Experiment Stations have called the attention of the farmer to this fact, there are many who are using kerosene emulsion with the mistaken idea that they are destroying disease germs. Dr. L. L. Lewis, of the Oklahoma Experiment Station, says: "Kerosene emulsion has no qualities as a disinfectant sufficient to warrant its use."

If kerosene emulsion is used it must be followed by another spraying with a liquid which will disinfect. It is needless to say that such a repetition of work is unnecessary and unwarranted just as much as a second planting of a field of grain is unnecessary when one can be made to do the work.

The difficulty lies in the mania some persons appear to have for "home remedies." No doubt there are home remedies that are valuable and home treatments that are warranted. The more farmers can know about these the better it will be for them. But the difficulty arises when Mary Jones, observing that her chickens have a disorder which she calls roup (and which, by the way, may not be roup at all), forthwith puts some kerosene down their throats or some axle grease on their toes and soon afterward notices an improvement. Mary then hastens to announce through the columns of her favorite agricultural journal that kerosene or axle grease, as the case may be, is an "unfailing remedy" for roup. The chances are that the disease was not roup in the first place, and that the remedy applied had no effect upon it, in the second place. Our friend is drawing conclusions from a single case, which is always unsafe. Furthermore, she is assuming conditions which may or may not have been present. It requires one familiar with animal diseases to correctly diagnose a case. Not that an experienced poultry keeper is unable to recognize a case of roup or gapes, but those unskilled in such matters often fail to note details and conditions that are essential. Thus the treatment that proves successful in one case may be disastrous in another. Therein lies the danger of Mary Jones' positive announcement that kerosene or axle grease is a panacea for all ills.

Let the farmer and poultry keeper bear in mind that cleanliness and sanitation are the prime requisites of health and thrift. Animals that are free from insect pests are in a much better position to resist disease than those whose vitality is being sapped

by myriads of lice, ticks or fleas. Give the live stock clean, sanitary surroundings and little trouble will be experienced from disease. We can scarcely prevent the introduction of dangerous disease germs into our barns, stables, yards and poultry quarters. These germs float in the air; they may be carried in the water, dirt and dust are often loaded with them; they are almost omnipresent. We may, however, keep the live stock quarters in such a condition that such germs as find lodgment there will be destroyed and thus their disastrous effects obviated. If yards and buildings are sprayed frequently with a disinfectant solution, feeding troughs and boxes treated likewise, and any animal giving evidences of contagion promptly isolated, and disinfected, the danger will be reduced to a minimum. Here, again, it is evident that if the solution which is used to destroy the disease germs is at the same time destroying insect pests an additional insurance against disease is provided.

A READER.

AN EXODUS.

Editor Southern Planter:

When is this movement of our young men, our middle aged men, and our old men, from country to city to cease? Why this unseemly and unreasoning haste to leave the fresh, pure air and sunshine of the country, which God has made, and bury one's self in the great, wicked cities, which man, wicked man, has made, and which in 99 cases out of every 100 are badly made and badly governed.

What does it advantage a man, to gain a precarious foothold and a scanty, meagre living in the city, and lose his old home in the country? What are thousands upon thousands of people daily losing when they move from the farm, in the fresh, pure air and sunshine of the country, and take up restricted, unhealthful quarters in the great big, noisy, dusty, dirty city?

When is this "exodus" from farm to city to cease? To-day there are more than 1,000 families in the city of Norfolk, who pine for the farm they left behind them. More than 1,000 families in one city, which ought to be out on the farm, producing something instead of being in the great city consuming everything.

Yesterday we spent in the country with a farmer. He had fine, registered Jerseys; good pigs, plenty of fat chickens. The rustling corn was on every side. There is nothing which whispers of plenty like the waving corn blades, rustling in the wind.

At the table we partook of a sumptuous repast. There was chicken, eggs, ham, milk, butter, cream,

cheese, pickles of all kinds, tomatoes, beets, apples, corn, potatoes, corn bread, wheat bread, coffee, etc. Take off the wheat bread, coffee, sugar, pepper and salt, and the rest of that splendid meal was grown right upon the farm, where it was consumed.

All winter long this man has green vegetables in his garden. He never buys any meat, lard, butter, milk or eggs. His wife can get up a meal on short notice for five, ten or for fifty people at any time of the year, and that, too, without running to the corner grocery, meat shop, bakery, etc.

His fruit trees are now loaded with fruit of all kinds. The blackberry bushes on the edges of his fields are also loaded down with the delicious fruit. The vegetable crops are planted in relays, so to speak, so that green stuff is coming on all the time for market, and for that best of markets, his own table.

As this particular farm where we visited faced on the salt water, fish, oysters, clams and crabs were to be had all the year, just for the catching. With the waters full of such food, and two or three hundred chickens running around, with fat pigs in the pen, and fine Jersey cows chewing the cud, and the genial sunshine and refreshing showers making all the crops grow and mature rapidly, such a man, so located, is better off, even if he has but ten acres in the country, than if getting \$1,200 to \$1,500 a year salary in the city. He will use every dollar of his salary to buy what he eats and wears—that is to say, he will spend what is left after he pays rents, taxes and all the penalties which a man has to pay who makes his home in the city.

It is not necessary for a man to own a big home in the country. Even if he has but ten acres, it will make him independent, provided he will handle it right. He can have one cow, which will insure him butter, cream, milk, Dutch cheese, etc. He can have two pigs, which insures his lard, pork, sausage, bacon, etc., for the year. He can have 50 or 100 hens, which insure him eggs and chicks to sell and to eat. He can have a great big garden and an assortment of fruit trees, and have fruits and vegetables all the year, his own raising. He can have a little surplus to sell all the time—a little butter, a few eggs, a few chickens, a few vegetables, a little fruit, and these "littles" will bring in cash enough to buy that which cannot be raised or grown upon the little farm. If close to markets, an acre or two in berries or Irish potatoes or in many other similar crops will pay remarkably well. People within easy reach of this city are now making a living from a very small acreage of land.

Last year an aged darkey made \$200 clear of all

expense from about one acre in berries. This year a gentleman is making nearly \$1,000 per acre, net profit, from a little two and one-half acre patch of land. As a rule, the smaller the farm the better it can be fertilized with brains. There is a first class fertilizer factory in the head of every practical farmer. He should use his head and his hands, and then his heart will be in his work.

Such men on a 50 acre farm or a 20 acre farm or 10 acre or even on a 5 acre farm cannot be downed. They will alight on their feet every time like a cat. When the farmer on a 640 acre farm falls or fails, he comes down ker-flop flat on his back. You cannot put a ten acre farmer on his back. He is right side up every way you take him. He covers his farm, and his farm keeps and takes care of him.

The practical, thorough, active farmer on his farm in Eastern Virginia near the sea, is the most independent farmer in the world. Put a great big high fence around him and fence him off from the rest of the world, keep him in and the rest of the world out, and after a ten year period you will find him right side up with care. It is true his clothes might be worse for wear, and a little out of fashion, but he would have good digestion and good health and a clear conscience.

Every man should lay out his farm and arrange his work and plant his crops so as to make his farm as near self-supporting as possible. Sell as much and buy as little as possible. That is what makes nations prosperous, and that will also make prosperity for the individual. The farmers of Eastern Virginia can, if they will, make themselves the most truly independent of any class of people in the world. Fish, oysters, clams, crabs, chickens, eggs, beef, pork, mutton, lamb, lard, fruits, vegetables of all kinds all the year; corn, wheat, oats, hay, potatoes, etc., a little to sell, will buy all there is needed to buy.

The soil and the climate here favor the growing of all the farm crops found in the temperate zone. The markets demand everything grown. And it is really and truly surprising, and very interesting to see and to know how independent a farmer can be here, if he will but make a fair effort in that direction. The salaried man pays out every dollar of his salary, and for what does he pay it? He pays it all out for that which, in the country practically costs him nothing. The farmer in the country, who just succeeds in making ends meet, is really and truly much more independent than the man in the city drawing a salary even of \$2,000 per annum.

Stick to the country young man, middle aged man, old man. Keep your brain clear, head level, stomach in order, conscience in good shape, and remember that it is to the country that the country must go for her statesmen, her warriors, her greatest and best professional men of all classes.

Mark the prediction, within ten years the movement from city to country will begin. That will be a healthy "exodus." That will mean prosperity, not only individual, but collective prosperity. Such a movement will help all classes and all conditions and injure none. Speed the day when it shall become popular and fashionable to "exodus" from city to country.

A. JEFFERS.

MAKING A CONCRETE FLOOR.

C. W., Mt. Victory, O., asks what it will cost to build a cement floor in his cattle barn, 28x58. Crushed stone is \$1 per yard, sand 50 cents, and cement \$2.50 per barrel. He wishes to know how thick the floor should be.

It will take a yard of crushed stone, a barrel of cement and about half a yard of sand, according to the fineness of the stone, to make a yard of concrete. That will mean 27 cubic feet, which, if laid four inches thick, will lay 81 square feet of floor. Therefore to lay your 1,624 square feet will take 20 barrels of cement, 20 yards of stone and about 10 loads of sand. It will take a little more cement than that, for there should be a half inch of richer cement mortar laid on before the under layer is quite set. You should buy cement for less money than \$2.50 per barrel.

JOSEPH E. WING.

INTENSIVE TRUCKING.

I am interested in the growing of various truck crops, and would be glad if Mr. Jeffers will give more in detail the method of growing four crops in one year. I would like to know how the spinach was planted, how wide between the rows? Was the lettuce in rows or in beds? What variety of bean planted, and variety of canteloupe? And last of all, where on earth a market was found for the stuff at the prices quoted so late in the season? I grow lettuce, but have never been able to get anything like such prices so late as May 15th, and the lettuce crop could not have been marketed sooner. I have only been in the business a few years, and feel a great need of information along these lines.

Pittsylvania Co., Va.

W. A. CHERRY.

THE

Southern Planter

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J. F. JACKSON,

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B. MORGAN SHEPHERD,
Business Manager.

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Rate card furnished on application.

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NO ANONYMOUS communications or enquiries will receive attention.

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PUBLISHER'S NOTES.

To Advertisers.

We wish to impress upon our advertisers the necessity of sending in all advertisements and matter pertaining to advertising, by the 25th of each month. If it can be sent before that date, so much the better for both of us. There is not a month that passes that we do not leave out somebody's ad. because of it reaching us too late.

Trial Subscriptions.

For 10 cents, coin or stamps, we will send the SOUTHERN PLANTER for three months as a trial subscription. As hundreds of our readers will be in attendance upon all sorts of picnics during this month, we would very much appreciate it, if they will bring this little offer to the notice of their friends. In this way, we will be enabled to get hold of a lot of non-reading farmers. Once we get them to reading, we are sure that we can help them as well as ourselves.

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The exhibit of the Farquhar Co. in the Palace of Agriculture at the St. Louis World's Fair will interest every farmer, lumberman and miller. Every one visiting the Fair should make a point of inspecting this splendid line of machinery, and will be well repaid for the trouble.

An illustrated catalogue describing this machinery will be mailed free to all who write The A. B. Farquhar Co., Ltd., York, Pa.

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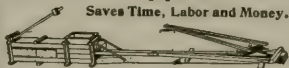
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WITH THE ADVERTISERS.

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A splendid lot of grade breeding ewes and a few good bucks are offered by that veteran sheep breeder, Mr. John Mathews.

Mr. T. M. Arrasmith has some excellent Berkshire blood which he is anxious to disseminate at very reasonable prices.

Angora goats, bucks, wethers and does can be gotten from J. H. Harpster in any quantity desired at low prices.

The Nut Nursery Company is another new advertiser in this issue. Parties interested in pecans and other similar stock should look up the ad.

Three splendid thoroughbred mares are offered for sale in another column by Mr. W. Chamberlain.

Inquirers for Red Poll Cattle are referred to the ad. of Arrowhead Stock Farm, in this number.

A splendid flock of Southdown sheep is offered by Col. R. H. Dulany's manager. There is probably no better blood in the country.

Soil infected with alfalfa bacteria can be had in any quantity of Mr. J. B. Watkins at very reasonable prices.

Mr. C. M. Bergh will sell his Guernsey bull to prevent inbreeding.

The Highland Stock Farm has an ad. in another column. Shorthorn cattle, Poland China hogs and Scotch Collie dogs are offered. Special prices will obtain for the present. Look up the ad.

Light Brahma fowls can be had of Mr. J. H. Fraser. Look up his ad. in another column.

Duntreath Berkshires are described in an ad. on another page as "the very best."

Mr. A. L. French, of the Sunny Home Angus Farm, has recently made a splendid addition to his herd, and is giving the public the benefit of it, according to his ad. on another page.

Dorsets and Herefords, at right prices, can be gotten from H. Armstrong.

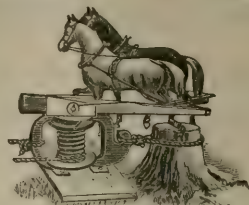
PLEASED WITH THE RESULTS OF CAUSTIC BALSAM.

Washington, Va., Jan. 27, 1904.
The Lawrence-Wiggins Co.,
Cleveland, O.:

I have used GOMBAULT'S CAUSTIC BALSAM on four horses, one for enlarged ankle; one colt, as absorbent; on third colt, for hard lump on bone from kick, used as liniment and blister; and fourth, on a horse for sprained ankle and tendon. Have been pleased with results and expect to order more soon. JNO. A. KEYSER.

"You are accused of running the end of your umbrella in this man's eye. Are you guilty or not guilty?"
"Not guilty, your honor. The umbrella doesn't belong to me."

Farmers Having Stumps

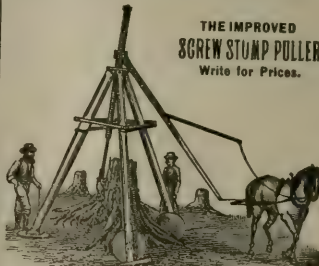


to pull or land to clear, will do well to investigate

The Monarch Grubber and Stump Puller.

It is the best on earth; you make no mistake in buying of a man of 5 years experience in pulling stumps. We set up the Puller and guarantee satisfaction before we want your money. 5 sizes. Write for catalogue and prices. JOS. W. RITCHIE, State Agent, R. F. D. No. 39, Grottoes, Va.

THE IMPROVED SCREW STUMP PULLER Write for Prices.



Chamberlin Mfg. Co., Olean, N. Y., U. S. A.

HERCULES STUMP PULLER



Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centerville, Iowa.

Monarch 1 Stump Puller

Will pull stump 7 ft. in diameter. Guaranteed to stand a strain of 250,000 lbs. For catalogue and discount on first machine address
MONARCH GRUBBER CO.,
Lone Tree, Iowa.

Make Your Own Fertilizer at Small Cost with

Wilson's Phosphate Mills

From 1 to 40 H. P. Also Bone Cutters, land and power, for the poultry, Farm Feed Mills, Graham Flour Hand Mills, Grind and Shell Mills. Send for catalogue. WILSON BROS., Sole Mfrs., Easton, Pa.



WASHINGTON NOTES.

A recent publication of the Bureau of Animal Industry on "The Farm Separator" has been in such demand that the Department of Agriculture is preparing a farmers' bulletin (201), entitled "The Cream Separator on Western Plains." The author, Special Agent E. H. Webster, writes largely from the observations made and facts gathered throughout Kansas and Nebraska. Not formerly in the list of dairy States, he says, these two have had a history in dairying both unique and interesting. The first lessons in the industry were paid for by the farmers at the rate of about \$100 per lesson in co-operative stock creamery companies, organized by smooth promoters. The scheme of running a creamery without a sufficiency of contributors of cream or milk was disastrous. The second step was bringing into practice the idea of skimming the farmers' milk at a station and shipping the cream to a central point for churning. This lesson, Mr. Webster says, only cost the farmer about \$25.

The third and successful step was the coming of the separator. To-day the creamery business of Kansas and Nebraska is a cream-gathering system, and the farmer has the separator in his home, while the creamery has the product of it. The author discusses the relative cost of hauling milk both ways and of hauling cream one way, comments on the increase in the butter fat due to the use of the separator, and also urges that while the separator is automatic in its skimming, some care and exercise of brains are needed in the handling of the cream. He also shows that a large share of the responsibility for the production of good butter rests upon the creamery management. There is no fear, he says, of the ultimate outcome of the farm-separator-creamery system if all who are concerned in it make the best use of the means they have at hand and study to know more about the business and to make high quality both of cream and butter—the end to which all efforts should be bent.

"Turkey Bulletin" (No. 200) of the Department of Agriculture, now on the government press, contains the following three general rules for selecting stock:

First. Always use as breeders turkey hens over one year old. Be sure they are strong, healthy and vigorous, and of good medium size. In no instance select the smaller ones. Do not strive to have them unnaturally large.

Second. The male may be a yearling or older. Do not imagine that the large, overgrown males are the best. Strength, health and vigor, with well-proportioned, medium size, are the main points of excellence.

Third. Avoid close breeding. New blood is of vital importance to turkeys. Better send a thousand miles for a new male than to risk the chances of



20th Century Wagon Box and Rack

One of the most convenient, useful, and labor-saving articles ever offered to the farmer. Substantially made and finished from best materials. Available for hauling corn, potatoes, wood, live stock, etc. By suspending canvas or muslin from top, inside, will hold 100 bushels of bulk grain.

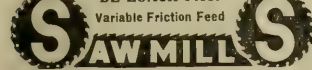
SIDES CAN BE LOWERED INSTANTLY

And it becomes a solid rack for hauling hay, straw, fodder, sheaf wheat, etc., with ample strength and capacity for three tons. Very convenient for husking corn with side lowered as shown in cut. Made 14 feet long and regular widths. Sold direct to farmers at manufacturers' prices, freight prepaid. Write for Catalogue and prices.

MODEL MFG. CO. Box Muncie, Ind.

DE LOACH PAT.

Variable Friction Feed



Save Power and Repairs. Make Smooth Lumber. Suited to 4 E. P. up for the farmer or the lumberman. Also shingle Mills, Lath Mills, Burr Mills, Planers and Hay Presses. Catalog FREE.

DeLOACH PAT.



TRIPLEX HAY BALER. SELF-FEEDER. LOW IN PRICE For Hand, Horse or Belt Power. Leverage 40 to 1. Bales quicker, easier and more solid than any other. Also Grinding Mills. Water Wheels, Etc.

120 LIBERTY ST. DE LOACH MILL MFG. CO. Box 600 Atlanta, Ga. ST. LOUIS NEW YORK.

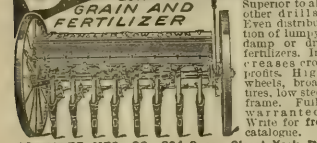
GRAIN and FERTILIZER DRILL

THE YORK FORCE FEED DRILL combines lightness with strength. Most complete drill made. No complex gearing to get out of order. Boxes are close to ground. Fully guaranteed.



THE HENCH & DROMGOLD CO., Mrs. York, Pa.

SPANGLER DRILL



SPANGLER MFG. CO., 804 Queen Street, York, Pa.

WE'LL PAY THE FREIGHT and send 4 Hurry Wheels, Steel Tire on, 27.25 With Rubber Tires, \$16.00. Infl. wheels 1/2 to 4 in. tread. Top Buggies, \$15.75. Harrows, \$6.00. Write for catalogue. Learn how to buy vehicles and parts direct. Wagon Umbrella FREE. W.V. BOOB, Cincinnati, O.

Just Plain Sense

It doesn't require any great wisdom or knowledge to get on in the world—just plain sense.

THAT'S why the most prosperous and successful farmers in the country, for the most part, are using our wheels or our wagons. That's why more of our

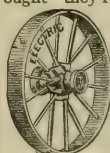
ELECTRIC Steel Wheels

and

ELECTRIC Handy Wagons

are sold every year than of any two other makes—just plain sense.

They are made right. They save labor and repair bills. They pay for themselves and they give satisfaction. If you don't know about them, you ought—they're a mighty good thing to have about the farm. Wouldn't it be "plain sense" for you to investigate? We'll send you our book free—no obligations to buy. Write to-day.



Electric Wheel Co. Box 146, Quincy, Ill.

We'll sell you either the wheels or the whole wagon.

BUGGIES

SURRIES,
DAYTONS,
RUNABOUTS,



SPINDLE WAGONS, CARTS, etc. 85 different styles and grades. Finest material and workmanship. Get our prices and see our vehicles before purchasing. SAFETY BUGGY CO., 1309 E. Main street, Richmond, Va.

SILOS

And the only Patent Roof

THE "PHILADELPHIA"

E. F. SCHLICHTER

1910 Market St. PHILADELPHIA, PA.

Also made by the Duplex Manufacturing Co., South Superior, Wis.

RIFE HYDRAULIC ENGINE

Try it 30 Days Free.



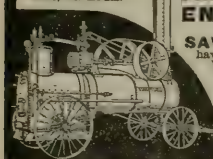
RIFE ENGINE CO., 128 Liberty St. New York.

Mention the SOUTHERN PLANTER in writing.

Built for Business

Farquhar engines and boilers are built for hard knocks and durability on the road as well as at work. They have every improvement that experience has shown to be of value. For general all-round service

See our Exhibit in
Palace of Agriculture,
St. Louis.

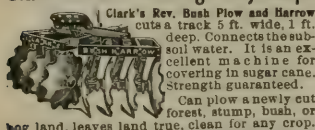


**FARQUHAR
ENGINES**

and
SAW MILLS

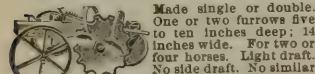
have no superior.
Write for 1904
Catalogue of
engines, boilers,
saw mills and
threshers.
A. B. Farquhar
Co., Ltd.
York, Pa.

Clark's Tools for Large Hay Crops



Clark's Rev. Bush Plow and Harrow cuts a track 5 ft. wide, 1 ft. deep. Connects the subsoil water. It is an excellent machine for covering in sugar cane. Strength guaranteed. Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.

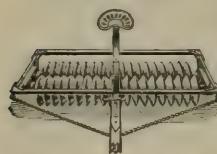
Clark's Double Action Cutaway Harrow moves 15,000 tons of earth in a day. Send for Circulars.



Clark's Rev. Sulky Disc Plow Made single or double. One or two furrows five to ten inches deep, 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, chickweed, hardhack, sunflower, milk weed, morning glory, Russian thistle or any other tool plant that grows, or money refunded. Now is the time to commence work for next year's seedling to grass.

THE CUTAWAY HARROW CO.,

Higginsum, Ct. U. S. A.



**Imperial
Pulverizer,
Clod**

**Crusher and
Roller**

Leads them

All

Send for Circulars **The Peterson Mfg. Co.** Kent, Ohio.

WARRINERS CHAIN HANGING STANCHION



CLEAN, SAFE, DURABLE AND COMFORTABLE.

WALLACE B. CRUMB, FORESTVILLE, CONN.
P. O. BOX 440

inbreeding. Secure one in the fall so as to be assured of his health and vigor prior to the breeding season.

Regarding the kind of hens to select, the following advice is given:

No matter what variety of turkeys may be selected for keeping, they should, above all things, be strong, vigorous, healthy, and well matured, but not skin. Better secure the females from one locality and the male from another to insure their non-relationship, rather than run the risk of inbreeding. In all fowls it is well to remember that size is influenced largely by the female, and the color and finish by the male. Securing over large males to pair with small, weakly hens is not wise policy.

A medium-sized male, with good, fair-sized females of good constitutional vigor and mature age will do far better than the largest with the smallest females.

Secretary Wilson is a farmer. He was a professor in the Iowa Agricultural College, but above all, he is a practical farmer. Still he proclaims the absolute necessity for scientific study and work if American farming is to push forward and continue to be the first industry of the nation.

"Five thousand students attend agricultural colleges," he said, "but these colleges are feeling their way in the dark along untried paths. They are fitting and trying, as carpenters built barns in old times, and they will at last forge out a system, by comparing notes, which will meet the requirements of producers and be entirely new and suitable to our conditions as a people."

"The most useful and valuable educational work in all the world, appealing to the educator, is that of the farmers of the country. Pioneer work along this line is waiting. The organization of faculties to do the work; apparatus, laboratories, text books, illustrative material, from primary to postgraduate and beyond, where studies of specialists must be combined, where research must be broadened, and where specialties must be grouped to reach a desired end and meet the pressing demands of producers, all these are waiting. This is the great field of applied science where the grower seeks the help of the scholar, of the experimenter and of the observer."

With the rise of beef prices the American hen, both as a meat and egg producer, becomes of prime importance. Is fowl flesh as nutritious as that of beef? Experiments have been made at the Paris Academy of Science to test the nutritive value of the flesh of fowls, as well as that of their eggs. Chickens, ducks and geese were found as nourishing as beef, if not of even greater nutritive value. Ten hen's eggs represent in food value about a pound of beef.

There is one way in which the dairyman is justified in putting water in his

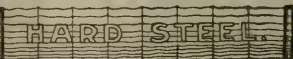
UNION LOCK POULTRY FENCING



HAS BEEN FULLY
TESTED AND FOUND
SUPERIOR TO ALL
OTHERS.

Will fit uneven ground without cutting. Every part can be stretched perfectly. Made of high grade galvanized steel wire. All horizontal lines are cables, making it stronger. Has fine mesh at the bottom for small chicks. We also make extra heavy for gardens, lawns, etc. The largest poultry farms are using this fence—over 700 rods by Lakeside (N. J.) Farm Co. We pay freight and satisfy every one or no sale. Can ship from N. Y., Chicago, or San Francisco. Write for free catalog of Farm, Lawn and Poultry Fencing.

CASE BROS., Box 340, Colchester, Conn.



WIRE • FENCE

Heavy lateral wires, heavy hard steel stays, coiled spring wire, Sure Grip Lock. In strength, appearance and durability, the Hard Steel Fence will be excelled. Write for catalogue and prices. THE HARD STEEL FENCE CO., Cuyahoga Falls, O.



Genuine Spiral Spring Wire FENCES AND GATES

If your dealer does not have our goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency.

INTERNATIONAL FENCE AND F. CO.
Columbus, Ohio.



LAWN FENCE

Many designs. Cheap as free. See special catalogue for prices. Patent rights reserved. Series and Charges. Address COILED SPRING FENCE CO. Box Q Winchester, Ind.



PAGE

THE COMBINED BREAKING
strength of Page Poultry Fence is 25,000 pounds.
Page Woven Wire Fence Co., Box 57, Adrian, Mich.



FARM FENCE

PRICE AND QUALITY
WILL PLEASE YOU
WRITE US NOW.

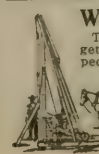
DOW WIRE WORKS • LOUISVILLE, KY.



FENCE! STRONGEST MADE.

Sub-
strong. "Chicken-
tight. Sold to the Farmer at Wholesale
Prices. Fully Warranted. Catalog Free.
COILED SPRING FENCE CO.
Box 58 Winchester, Indiana, U. S. A.

WIRE FENCE at Wholesale. 4" x 1/4" stock fence 29¢ per rod.
Send for price list and FREE catalogue of Wire Fence and full line of Fence Supplies.
W. H. MASON & CO., Box 50 Leesburg, Ohio.



Water Problem Solved.

The Koger Well Drilling Machine gets it. The farmers' friend. Especially for domestic well making. Cheapest by half and the most practical of any.

Best money maker on the market. Catalogue free.

J. J. KOGER & SONS,
Mooreburg, Tenn.

THE OAKS FOR SALE.

Being advised by my physician to seek a drier climate on account of my wife's health, I offer "The Oaks" for sale; situated 1-2 mile from depot on main line of N. & W. R. R., 1-4 mile from corporation limits, and contains 145 1-2 acres; dwelling house has six rooms and pantry; situated on an elevation commanding a fine view of the Peaks of Otter (12 miles), town and surrounding country; and surrounded by a magnificent grove of stately oaks, about 10 acres in original growth of large oaks. Land is gently rolling, most of it in grass; three elegant never failing springs, one very bold; plenty of fruit for home use; there is also a 2-room tenant house and large barn and corn crib. There are about 45 acres well set in Clover, Timothy, Alsike and Alfalfa, (about 4 acres in Alfalfa); half of it two years old; cut it five times last year and it now, 10th of May, stands 12 inches, after being frozen down 1st of April. This is strictly Alfalfa land and there are 25 acres that will be ready to seed to Alfalfa this summer; 40 acres seeded to Alfalfa will be worth more than I ask for the whole farm, as hay is now selling here for \$18.00 per ton and has not been less than \$14.00 for two years. There are 7 acres in wheat; 16 in rye; 11-2 in oats; 34 in corn, and 4 in peas and sorghum. Will sell the place as a whole or in two tracts. Would say to any purchaser that if he comes and looks at the place and finds it *not* as represented I will pay his railroad fare.

B. B. Buchanan,
Bedford City, Va.

milk, that is by giving the cow all she can drink of clean, pure water. Cows are naturally heavy drinkers and in many cases they get insufficient good water, both in winter and summer, in the winter they have to drink through a hole in the ice and consume less than they need, while in summer they may have access only to a nearly stagnant pool. A good water system both for man and beast is a highly desirable thing on the farm.

The dust bath may be considered almost a specific against lice. The hens will throw the dust up through their feathers, effectively smothering these vermin, which, having no lungs, must breathe through apertures in their sides.

With a little look ahead there is no need of buying fence posts. Few and far between are the farms upon which cannot be found places for tree-growing for posts which will not interfere with the farm crops. The Bureau of Forestry highly recommends the catalpa tree as a quick-growing fence-post species. Locust makes another excellent post and is quick-growing. Care should be taken, however, in locating the locust wood-lot, since the roots sucker freely and become almost impossible of eradication.

Raise more fruit.

GUY E. MITCHELL.

A GOOD SHOCK BINDER.

The Fontaine Shock Binder Company, of Christie, Va., have been advertising their patent binder in the last few issues of the SOUTHERN PLANTER. From the description and endorsements we had seen of it, we had already been favorably impressed with its value and usefulness. The Company very kindly sent us a sample, and upon examination, we are free to say that our good opinion was instantly confirmed. Farmers having corn to shock will make no mistake in investing \$1.50 for this little device.

DELOACH PROSECUTES INFRINGERS.

The DeLoach Mill Mfg. Co., of Atlanta, Ga., writes us that it has instituted proceedings against all infringers on its Variable Friction Feed for Saw Mills. Mr. A. A. DeLoach, of the above firm, is the original patentee and he very naturally resents other people appropriating his brains for their own use. The DeLoach Company has long been a patron of our advertising columns, and scores of our readers are familiar with its saw mills and other machinery.

A FAMOUS SHEEP DIP RECORD.

A careful record was made at the Royal Show of England last year when it was discovered that over 95 per cent. of all the sheep exhibited had been dipped in the well-known Cooper Dip. After sixty years' use this is truly a fact the manufacturers should be proud of.

Northern Virginia Farms

Of every class, adapted to Grain, Fruit, Dairy and Blue Grass, within five to thirty miles of Washington, D. C.

No. 5.—163 acres; half timber, balance cleared; 1½ miles from station. Good 7 room house; large barn; good water. Price, \$2,000.

No. 16.—130 acres; 20 in timber, balance cleared. Good land. In good condition. Comfortable 4 room house. Fine water. Five miles from station. Fronts on Pike. Price, \$20 per acre.

No. 22.—225 acres. Two and one-half miles from station. Forty acres timber, balance cleared. Fine land. In good condition. Good 7 room house. Large barn, etc. Price, \$20 per acre.

No. 23.—50 acres truck and fruit farm. Price, \$2,650.

No. 25.—175 acres. Grain and Blue Grass farm in Rockbridge county, 1½ miles from Buena Vista. Fine condition. Nice home. Price, \$5,300.

No. 28.—516 acres. Grain and Blue Grass Farm, 1½ miles from Buena Vista. First class condition. Handsome home; all modern equipments. Price, \$16,000.

No. 34.—60 acres. Truck and fruit farm. 12 miles from Washington, near railroad station. Excellent condition. All improved selected fruit. Price, \$5,600.

No. 30.—50 acre farm in Loudoun county, 3½ miles from rail. Price, \$1,600.

No. 33.—400 acre farm in Loudoun county. Good grain and grazing land. Price, \$7,500.

No. 35.—400 acre farm in Loudoun county. Excellent grain and grass land. Modern improved buildings. Price, \$8,000.

No. 36.—275 acre farm in Fairfax. Fine quality of grain and grass land. Good buildings. Refined and educated citizens. Price, \$7,000.

See April and May issue of SOUTHERN PLANTER for description of the above farms, and write for my farm list and full information.

W. E. MILLER,
HERNDON, VA.

HOMES AND THE PLACE TO FIND THEM.

No place in the United States can a man do so well as farming, for the money invested, as in Virginia. Lands are cheap; climate good, and the best of markets close at hand. It is the State of all others, for a comfortable all the year round home. The James River Valley Colonization and Improvement Company offer superior advantages to land purchasers. For free 36 page land pamphlet, address

W. A. PARSONS, Vinita, Va.
C & O Main St. Depot, Richmond, Va.

BLUE GRASS & TRUCK FARMS.

The best grazing section of Virginia. Blue grass indigenous. If you are interested in fruit growing or trucking, you can find no better country in the United States.

BUY THE BEST and send for our free Real Estate Bulletin. It will help you find it. SOUTHWESTERN VIRGINIA LAND AGENCY, C. B. Thomas and L. F. Krenning, General Managers, Wytheville, Va.



WILLIAM T. BROWN, 114 Brown Law Bldg., Lancaster, Pa.

CASH FOR YOUR FARM

OR ANY REAL ESTATE.

No matter where located. Send description and lowest cash price. I succeed by giving personal attention. Interesting and valuable particulars FREE. Write today. Bank references.

FOR SALE FARM ON SHARES

I will sell all or one-half my dairy business, or I will give the right man an interest in profits to superintend same. A bargain for a profit. Apply OAK HILL STOCK AND DAIRY FARM, Wenonah, Va.
D. & W. Ry.

...FOR SALE...

FARMS AND SUBURBAN HOMES OF EVERY DESCRIPTION.

35, 50, 100, 500, 1,000 and 2,000 acre tracts. Some of these highly improved and convenient to schools, churches, steam and trolley lines. If you want to buy or sell a Virginia farm, see Hockaday & Casselman, Richmond, Va.

J. R. HOCKADAY, Richmond, Va.; LAURENCE CASSELMAN, Ex-Auditor McLaine Co., N. Dakota.

Northern Virginia,

Grain, Fruit, Dairy and Blue Grass Farms of every Class within one hour of Washington, D. C.

LOUDBON COUNTY Farms a Specialty.....

Catalogue on application.

P. B. BUELL & SON, Real Estate Brokers, Herndon, Fairfax Co., Va.

PROCEEDINGS OF THE EAST TENNESSEE FARMERS' CONVENTION.

(Continued from last month.)

Mr. Robt. Gallagher, of Shelbyville, told how he renovated a wornout farm through a judicious rotation of crops in which the cow pea predominated. Mr. S. F. Gettys, of Sanford, also spoke on this subject, and said on hilly land he found broad, shallow ditches invaluable. Mr. Gettys has made a notable success of preventing a hilly farm from washing and his address was thoroughly appreciated by the large audience.

The Preservation of Farmyard Manure was next taken up by Mr. P. F. Kefauver, of Madisonville, who told about his manure stable which he called his fertilizer factory. Prof. Chas. A. Moores, of the Tennessee Experiment Station, followed Mr. Kefauver. He gave considerable attention to the construction of manure pits and urged that greater care and attention be given to the handling and preservation of the manure, as at the present time the loss of nitrogen was simply enormous, and as this could be avoided with a moderate outlay, more attention should be given to this important subject.

The Convention offered \$25 in prizes for the best display of corn. A large number of samples were placed on exhibit and some of them were very excellent indeed. The prizes were awarded as follows: First, H. W. Anderson, Limestone, on White Cob Bread; second, R. L. Wheeler, Morristown, on White Dent; third, J. P. Lewis, Lone Mountain, on White; and fourth, J. D. Cannon, Maryville, on Dent. Following this, Mr. E. S. Huffman, of Normandy, one of the largest breeders of corn in the South, spoke on his methods of breeding and selecting corn. Mr. Huffman has made a great success of this work and says those who are interested in breeding corn should not fail to take advantage of the course in cereal judging offered by the University because of the definite information it gives one with reference to the improvement of cereals through selection and breeding.

Prof. Soule's address on the Construction of Farm Silos was a valuable one. It was illustrated by a large number of miniature silo models. Sections of the various timbers used in the framing were shown to the audience, and the subject was presented in such a simple and clear manner that any one interested should certainly be able to build a silo. The importance of the silo and the simplicity of construction that could be followed were points strongly emphasized.

Dr. T. W. Jordan, of the University of Tennessee, next told of his experience in feeding silage to export cattle. This was certainly an excellent address and is evidence of the practical value of silage for the winter maintenance of cattle. Mr. W. D. Brow-

..To Homeseekers..

"THE BUSINESS OF FARMING IN VIRGINIA."

Is the title of a new pamphlet issued by the Norfolk and Western Railway Company. We will gladly mail you a copy.

W. B. BEVILL, PAUL SCHERER, Agt.,
G. P. A., Lands and Immigration,
Roanoke, Va.

I Can Sell Your Farm....

If located in one of these Virginia counties: Prince George, Chesterfield, King William, Gloucester, New Kent, King and Queen, Hanover. Send description, stating price.

JOHN JELINEK, 1116 Pine Alley, Braddock, Pa.

"In the Green Fields of Virginia."

Homes for ALL; Health for ALL; Happiness and Independence for ALL. ALL sizes of FARMS at corresponding prices, but ALL reasonable.

MACON & CO., Orange, Va.

VIRGINIA FARMS

\$3 PER ACRE AND UPWARDS.

EASY PAYMENTS. CATALOGUE FREE.

GEO. E. CRAWFORD & CO., Richmond, Va.

Established 1875.

FINE FARMS

in the great fruit grain and stock section of Virginia. Best climate and water in the U. S. Near great markets, with best educational advantages.

For further information, address ALBEMARLE IMMIGRATION CO., SAM'L B. WOODS, Pres. Charlottesville, Va.

Go South.

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der, of Pinhook Landing, and W. H. George, of Chandler, also spoke on this subject and gave some very interesting and instructive facts. Col. S. E. Young, of Sweetwater, told of the value of silage for the maintenance of the dairy cow. He regarded it as indispensable. Prof. John R. Fain, of the Tennessee Experiment Station, gave a summary of two years' results in feeding beef cattle on silage. He showed that the cattle had gained more than two pounds per day throughout a period of 150 days and that these gains were made at a surprisingly low cost.

Col. J. A. Reagan, of Sweetwater, next followed with "My Experience with Grasses and Clover." He gave some very practical suggestions with reference to this topic. Mr. P. O. Vanatter, of the Tennessee Experiment Station then discussed "Alfalfa and Grass for Hay and Grazing." He stated that under proper conditions alfalfa could be grown successfully in Tennessee, but that the land must be thoroughly and carefully prepared. This was the key to success.

Chattanooga, through Mr. C. W. Holbrook, Secretary of the Chamber of Commerce, presented an invitation to the Convention to meet in that city next year. He was given a vote of thanks and the matter was referred to the Executive Committee with power to act. Resolutions were then adopted asking the State Legislature to give the Experiment Station at least \$20,000 annually for maintenance and support; approving the farmers' institute system as conducted by Commissioner W. W. Ogilvie; thanking the World's Fair Commission and the railroads for the special rates; and asking the Legislature to give the Agricultural Department of the University the support it deserved. Resolution were also passed favoring compulsory education and the establishment of chairs of veterinary science and entomology and a poultry department in the University of Tennessee; the secretary was highly complimented for his work, and the membership fee was fixed by amendment of the constitution at \$1.00 per year. The following officers were then elected: President, W. Gettys, Athens; Vice President for Life, O. P. Temple, Knoxville; Secretary, Andrew M. Soule, Knoxville; Assistant Secretary, G. B. Wheeler, Morristown.

The Convention then adjourned to visit the University Farm in the afternoon. A special train of street cars was placed at the disposal of the delegates by the Knoxville Traction Co. and more than 700 reached the farm about two o'clock. The 1,200 grass and grain plats were visited and the beautiful farm with its fine growing crops was the subject of much admiration and favorable comment. When the stables were reached the stock received its due share of attention. The excellent dairy herd, splendid beef cattle and Berkshire hogs were great-

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ly admired. Prof. Soule spoke on the requirements of good beef cattle, illustrating his remarks with a group of Hereford steers fed on silage for the past six months at the Experiment Station. These animals were almost perfect specimens of the breed, and it is safe to say that the object lesson thus presented will do much towards improving the quality of cattle kept on the average Tennessee farm. At the close of the stock judging demonstrations conducted by Profs. Plumb, Fain and Soule, the delegates were all seated on the grass and given light refreshments. This constitutes the great annual social feature of the Convention and it is needless to say that it is thoroughly enjoyed. In fact, it is hard to describe the real pleasure it affords the delegates.

In conclusion, it is only necessary to say that the value of the Convention cannot be estimated. It is so far reaching in its influence by reason of its representative nature that the benefits of the information derived from it are everywhere observable. It is doing a wonderful work for this section of the South, and the fervent prayer of its hundreds of well-wishers may be briefly summed up in "long may it live and prosper."

ANDREW M. SOULE,
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wants position (Virginia preferred). Understands handling labor improved implements. Nine years last place. Address R., 1265 M street, N. E., Washington, D. C.

Reliable White Man

Wanted for farm work; his wife to look after milk, etc.; not a dairy. Address, with reference, S. M., Box 485, Richmond, Va.

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Chartered by State of Virginia.

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Organized January 9, 1899; amount insured January 9, 1904, \$370,600; policies secured by real and personal property, estimated value, \$1,000,000. For further information address CHAS. N. FRIEND, General Agent, Chester, Va.


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1,200 Bushels Virginia Winter Grey or Turf.

These oats were sown in the Fall; are of a very superior quality and EXTRA HEAVY. Grown in Albemarle County, in the Piedmont section of Virginia, where the best seed oats obtainable are produced. Samples sent on application. Address **WOODSIDE STOCK FARM, P. O. Box 145, Charlottesville, Va.**



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Crimson and White Blooming German Clover, Rape, Vetches, Alfalfa, and all Grass, Grain and Garden Seeds. Prices cheerfully quoted on application. Catalog mailed free.

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Ginseng, Golden Seal and Seneca Snake Root.

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GOOD HOUSEKEEPING.

STUFFED EGG PLANT.

Select moderate sized egg plant and cut them half in two. Scoop out all the seed and inside meat, leaving the rind half inch thick. Chop the meat fine, add to four cups of it two cups of ripe tomatoes peeled and chopped, one cup of bread crumbs, a small onion chopped fine, pepper and salt to taste, pack it all firmly into the shells and put lumps of butter about on the top of it put them all into a biscuit pan which must be half full of water, and bake very slowly for more than two hours. You may treat cymalings (or squash) in the same way with very good results.

BROILED TOMATOES.

Select firm, not overly ripe, tomatoes, and cut them in slices nearly half an inch thick, dip each slice in meal which is seasoned with a little salt and pepper, and put them on a hot griddle, turn several times, and let them cook in all about eight minutes. Serve at once.

POTATO AND BEET SALAD.

Boil the vegetables as if to be used for dinner (or else save what is left over), and let them get thoroughly cold, then cut them into small squares; set the dish into the ice-box till just before serving, then pour over it and mix well with it, by tossing the vegetables up with a silver fork, a dressing made with the juice of two lemons, two tablespoons of sugar, one teaspoon of salt, one teaspoon of celery seed, half teaspoon of mustard, and a small quantity of black pepper. Heat these all in a small pan over a boiling tea-kettle and stir into it two beaten eggs, let it thicken then take it off and add a tablespoon of butter, and when it is cold thin out with a small quantity of cream.

STUFFED RAW TOMATOES.

Try to have the tomatoes of uniform size, not very large, and they must not be very ripe, but a beautiful red. Cut off the bloom end and scoop out the inside, leaving rather a thick shell. Chop what you have taken out with half as much fresh cucumber season with a little mustard, pepper, salt and onion juice enough to give it a flavor, fill the shells with this and set them on ice till ready to be served. Garnish with lettuce leaves on curled parsley. Serve one to each guest.

CANNED PEACHES.

Peel and cut the peaches off in as large slices as possible, pack them into a porcelain kettle with water coming half way up, let them boil for ten minutes, if they are soft, but longer if hard. Have the jars hot and fill them from the boiling kettle, screw on the tops at once, and see that they are screwed very tight, and the fruit will keep as long as you want it to.

CORN PUDDING.

Cut the corn from the cob and to a quart add two beaten eggs, one cup of fresh milk, one teaspoon of salt, a tablespoon of sugar, and a big spoon of



Potash Fills the Grain Sacks

Potash is a necessary nourishment for grain and all other crops.

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SCOTH COLLIES

pups \$5 each; grown dogs at reasonable prices. For 25c. will send information as to what days in the year on which to cut brush, briars, weeds and all obnoxious growths to permanently destroy them. **SHADY BROOK FARM, R. F. D. 2, Roanoke, Va.**

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Four months old, by Americas greatest sire, Imported Ohio Hope, Ex Edgaston Spl. Bred for the bench show and to drive

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I can furnish high bred ANGORA GOATS during August, September, October and November in Singles, Pairs, Trios or large lots. Write for prices.

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ANGORA GOATS are handsome, hardy and profitable. For large circular address **E. W. COLE & CO., Big Clifty, Ky.**

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A fine lot of KENTUCKY bred and big BLACK SPANISH Jacks and Jennets; also 1 and 2 year old Jacks; young stock for sale at all times.

Write or see me before you buy. Come to Kentucky if you want a good Jack. **JOE E. WRIGHT, Junction City, Ky.**

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1 pair bay mules, 5 years old weight, 2,300 lbs.; 1 pair bay mules, 8 years old, weight about 2,100 lbs. 1 iron gray, standard bred horse, 7 years old, weight 1,250, 16 1-4 hands, sound and good driver, good looker, will work anywhere. Prices right. Address **H. F. LYNN, Jr., Woolsey, Va.**

Bargains in SHEEP.

1 fine HAMPSHIRE BUCK; 4 fine SHROPSHIRE BUCKS; 180 good grade breeding Ewes. Come and see them or write **JOHN MATHEWS, East Richmond, Va.**

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Woodland Farm

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J. E. WING & BROS., Mechanicsburg, O.

Shropshires.

8 Bucks and 50 Ewes for sale.

JOSEPH WILMER, Rapidan, Va.

butter and a small quantity of black pepper. Pour it into a pudding dish and bake until the corn is done. If the corn is old and dry it will be necessary to put in more milk, and will be well to score it down the middle before cutting it off.

ICE CREAM.

One quart of fresh milk, scalded, and thickened with a tablespoon of cornstarch, sweetened with three cups of sugar; to this add one quart of pure cream and season with vanilla or bitter almond and freeze quickly; this will beat up to nearly three quarts if you have a good freezer.

TEACAKES.

One quart of flour, two teacups of sugar, one teacup of butter and lard mixed, the yolks of two eggs beaten and stirred into a cup of butter milk, one teaspoon of soda. Make into a dough and roll out very thin. Season with nutmeg or powdered cinnamon.

PEACH SHORTCAKE.

Make a dough of one quart of flour, one teaspoon of baking powder, one cup of lard and butter mixed, and a teaspoon of salt, enough milk to make rather a soft dough, roll it out and bake in your square pie pan, putting three layers in the pan with a little butter between. When thoroughly done pull the layers apart and butter well, spread between them soft juicy peaches which have been peeled and sliced and sweetened for some hours; pile them up again and serve with cream.

BLANC MANGE.

Scald one quart of new milk, into it put one cup of sugar with four table-spoons of cornstarch mixed with it, a minute later stir in two well beaten eggs; let it cook in a double boiler until it becomes a stiff paste then turn it out and season with vanilla, put into molds and set on ice till you want to use it. It is better if kept half a day. Serve with cream seasoned with vanilla and preserved cherries.

CARAVEN.

FALL FENCING.

In many sections of the country old farm fences are overhauled and new fencing is set in the fall after corn is laid by and harvesting is out of the way. Any reader of the SOUTHERN PLANTER who is planning work in this line will do well to write to **W. H. Mason & Co., Box 80, Leesburg, O.**, makers of high grade wire fence. They operate under very low expense and sell correspondingly cheap. Address carefully as above and your letter will have prompt attention.

SCARR'S FRUIT PRESERVATIVE.

This well-known powder is being advertised in this issue by its makers. From a little pamphlet of testimonials we have received, we learn that it is thoroughly effective and harmless in preserving fruits and vegetables.

V. P. I. Farm Bulletin

We have for sale at present, some splendid **DORSET RAM LAMBS.**

For prices, etc, address

**D. O. NOURSE, Prof. of Agr.
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30 PURE-BRED

SOUTHDOWN EWE

lambs for sale. Price, \$15 each, October, 1894, delivery. This flock was originally purchased from Henry Webb, Babraham, Eng., and crossed from time to time with the descendants of Rams bought by John Hobart Warren from Lord Walsingham, of England. **WM. JOHN, Linden, Va. (Mgr. Col. R. H. DULANY).**

Meadow Brook SHROPSHIRE.

For sale; very fine one and two year old pure bred SHROPSHIRE BUCKS; some very nice ewe lambs. **C. A. SAUNDERS, Meadow Brook Stock Farm, Culpeper, Va.**

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We have sold all of our 1 and 2 year old Hampshire Rams, but have a **GRAND LOT OF LAMBS** for next year's trade. **MEADOW BROOK FARM, J. D. THOMAS, Round Hill, Va.**

REGISTERED SHROPSHIRE SHEEP.

8 ewes, 1 ewe lamb, 3 ram lambs, 2 yearling rams, 1 2 year old ram out of imported stock. All good size, well marked, good individuals. Prices, ewes, \$12; lambs, \$10; yearling rams, \$16; 2 year old ram, \$25 f. o. b. Barclay, Md. Entire flock at a discount. Must sell as have no place to keep them. **H. R. GRAHAM, Chestertown, Md.**

4 PURE-BRED SHROPSHIRE BUCK

lambs and 1 mature buck for sale, or will trade for pure bred young ewes of same breed. Must be first class in every particular. **Dr. F. E. WILLIAMS, Charlottesville, Va.**

THOROUGH-BRED...

**Berkshire Boars,
Dorset Buck Lambs,
Jersey Bull Calves.**

All stock in best of condition and guaranteed as represented.

F. T. ENGLISH, Centreville, Md.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

FOR SALE

The Five-Year-Old Hereford Bull LARS, JR., 85297.

One of the Great Sires at Castalia Farm. 10 Years of Usefulness before him. A Sure Breeder, a Tested Sire.

CALVED NOV. 24th, 1898.

LARS, JR., IS A MODEL BULL, showing "QUALITY" as his prominent feature from head to tail. From birth the bull had a most docile disposition, matured early, and has always been a good feeder. He is of the masculine type throughout, with a fine, rich coat of Hereford red and the usual white face and other Hereford markings. His heart girth is ample, ribs well sprung, with good quarters, well flanked behind. He is a sure breeder, and his calves mature quickly. Being only five years old, and a tested sire, with a pedigree combining many champion prize winners of international reputation, Lars, Jr., is fit to head any herd, and is sure to prove a useful and profitable investment. This bull was bred by Mr. Thomas Clarke, of Beecher, Ill., and calved at "Castalia," where he has since been developed.

His Sire is LARS, 50734, SECOND PRIZE YEARLING BULL at WORLD'S FAIR, FIRST AND CHAMPION PRIZE WINNER as a two, three and Four year old at all the principal fairs; also headed the herd winning Grand Sweepstakes at the great LIVE STOCK SHOW OF AMERICA, at Madison Square Garden, New York City, in 1896.

The dam of LARS, JR., is JUDY, 55711 (one of the breeding cows in the Castalia Herd, and is a regular breeder and excellent milker, by PEERLESS WILTON, 12774, a sire of as many prize winners as any Hereford Bull living), and the dam of Judy is JESSIE 3D, 10908, by SIR RICHARD 2D, 970a, the celebrated sire of prize winners, and especially of good breeding cows.

Thus Lars, Jr., may rightfully be expected to be a sire of good animals.

Address MURRAY BOOCOCK, Owner, Keswick, Va.

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Pure-bred Reg. Herefords

15 Bulls and Bull Calves. 11 Heifers and Heifer Calves.

The above are by such noted sires as Beau Donald, Actor 3d, Prince Rupert, etc., and out of cows that are the pick of several farmers' herds, and will show for themselves.

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15 Cows and Heifers. 5 Heifer Calves. 5 Yearling Heifers. 5 Bull Calves.

Some of the above are almost pure bred, but not subject to registry. We want to close out the latter, as we are going in for raising pure bred Herefords exclusively.

HOGS

Pure bred, registered Berkshires of all ages; Pigs by the noted Royal Bachelor, of international fame; also a number of cross bred sows, gilts and pigs.

SHEEP

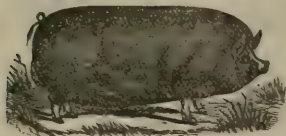
40 choice Ewes (young), Oxford Down, Southdown and Shropshires; mostly pure bred, but not subject to registry.

HORSES

3 good Farm Horses. 1 fine Saddle Mare and Colt. 1 registered Percheron Stallion (Imported). Will meet all trains at Forest Depot, Va., on day of sale or previous to sale, if notified in time. For all further inquiries, address

THE ELKTON STOCK FARM, Forest Depot, Va.

Berkshire Hogs!



Sires in service, **Rockland Majestic of New Era**; his sire **Rockland Gentry**, champion of America in 1903; grand sire, **Baron Lee IV**, **Model Lee IX**, sire **Gov. Lee**, champion of America in 1889. Sows of **EQUALLY NOTED** Strains. A few nice pigs for sale. Write for prices.

JNO. CALHOUN, Clío, S. C.

Maplewood Herd.

..Berkshires..

Selectly Bred. Choice individuals.

Write for prices, stating your needs.

JNO. F. TUCKER,

Smyrna, Tenn.

BERKSHIRE PIGS

FOR SALE

We have on our Hollybrook Farm a fine lot of young Berkshire Pigs from 8 to 12 weeks old, for sale. These pigs are from registered stock, and are first-class in every respect. Our pigs have free range, with fine stream of running water through the hog pastures, and our stock is as vigorous and healthy as possible. Price either for boar or sow pigs, \$5 each, crated and delivered on cars, or to express office at Richmond. Address orders to **HENRY W. WOOD**, Box 330, Richmond, Va.



OUR herd represents the very best strains of imported **Large English Berkshires**. Choice stock at reasonable prices.

Address

Cottage Grove Farm,

P. O. Box 5, Greensboro, N. C.

Berkshires

Best **ENGLISH** and **AMERICAN** blood. Herd Boars: **Columbus Lee VIII** (brother of Combination); **Workman of W.** (sire, Jack of all Trades). Stock for sale at prices YOU CAN AFFORD TO PAY. **H. W. FUGATE**, Fugate's Hill, Russell county, Va.

NO MORE BLIND HORSES.

For Specific Optimalism, Moon Blinds, and other Sore Eyes, **Barry Co.**, Iowa City, Ia. have a cure.

CANNING TOMATOES.

For the benefit of a subscriber and others, here is the plan I follow in putting up tomatoes and out of 230 quarts only lost five, and these on account of defective tops. I fit the tops to the jars just before I am ready to use them, being careful to see that all tops fit down close all around without rubber on. I use good soft rubbers and only one to a jar. Use glass jars with screw tops. See that jars and tops are perfectly clean. Select only ripe, firm and perfectly sound tomatoes. Round smooth ones peel easier. Put them in a vessel and scald by pouring over them boiling water. When the skins slip easily pour off the water and peel quickly and put them into a preserving kettle, pour in enough hot water to prevent sticking to bottom and gradually bring to a boil. Set dish pan on the stove with boiling water about three inches deep, take top from jar and put in pan of water, lay jar down in water, giving it a rolling motion so water will strike it all around at once, lessening danger of breaking. Roll jar around until it is thoroughly hot, pour out the water and set it up in the pan and quickly fill with tomatoes from the kettle, which should be kept at the boiling point and also the water in the pan during the whole process. Fill as quickly as possible, adjust rubber and take the top out of the pan and screw it down as tight as possible, and set jars away upside down to cool. When cool, examine to see if any have leaked; if not, you can be reasonably sure that they will keep. Some advise screwing tops down tighter after jars are cool, but I believe that this is a mistake. When tops are screwed down as tight as possible while jars and tops are hot, the rubber softens and sticks tightly to jar and top, sealing the jar. If, when jars are cool, you will turn them upside down and give the top a turn, you will notice that air will enter, causing bubbles to pass up through the tomatoes, which I believe to be the cause of so many failures. Good ripe fruit, everything perfectly clean, jars, tops and tomatoes boiling hot when put in and sealed, and tops screwed down as tight as possible to prevent air entering jar is the whole secret of success. I canned 115 quarts in September, 1902, and have a few quarts of them yet, and they are as good as when first put up. This was my first experience at canning and I was almost afraid to make an attempt, as the editor of the *PLANTER* had a short time before in answer to a subscriber replied that he hesitated to advise home canning, on account of failures reported from receipts appearing in previous issues.

Tomatoes can be canned and canned to keep by following strictly the directions above. I have put up blackberries and huckleberries the same way and never lost any.

Mrs. K. W. BAKER.

5 BERKSHIRE

Boar Pigs, farrowed April 20th, for sale. Sired by **DANSFIELD ROLAND**, out of **MANSFIELD BELLE**. These pigs are extra fine in every respect, and will be sold for \$10 each f. o. b. express office. Certificate of registration with each one. **T. M. ARRA-SMITH**, Greensboro, N. C.

Too Many BERKSHIRE PIGS.

Will sell limited number at prices that will make them go. Choice **YOUNG BOARS** ready for service. Brood sows Reg. bred to King John of Passifern 9125, he by Imp. Sir John Bull.

WILLIAMSON TALLEY,
Richmond, Va.



BERKSHIRES.

A few fine young boars and sows for sale. Farrowed February and March, 1904. Right age for full breeding. From registered boar and sows. Pure Biltmore blood. Price during August, \$10 each f. o. b. Charlottesville. Write for further information. **ROBERT HIBBERT**, Charlottesville, Va.



Registered P. Chinas
Berkshire
C. Whites. Large
train. All ages mated
300 skin. Bred sow,
service boars, Guernsey
calves, Scotch
Collie pups, and Poul-
try. Write for prices

and free circular. **P. F. HAMILTON,**
Cochranville, Chester Co., Pa.

BERKSHIRE PIGS

for sale. Nice lot at farmers' prices. **EVERGREEN DAIRY & STOCK FARM, V.**
B. GATES, Prop., Rice Depot, Va.

Hawksley Stock Farm,

has a few fine young **BERKSHIRE BOARS** to sell. No more pigs until August 1st, also a few half bred **DORSET HORNE** **BUCK LAMBS**. **J. T. OLIVER, Prop.** Allen's Level, Va.

Essex and Poland China

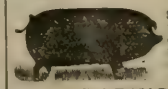


pigs from 8 weeks to 4 mos. old, an extra choice lot. Also some choice Southdown and Hampshire down Sheep and Lambs. For prices address **L. G. JONES, Tobaccoville, N. C.**

FAMOUS O. I. C. SWINE.

Mortgage Litters—the hog for profit. Excel all others in vigor, health, strength of constitution, bone and muscle. Large litters, large gains, gentle dispositions, grand milkers, good feeders, thrive in any climate. Good ones, 8 months old, for sale. Reg. Stock. Prices low for quality. **MANSFIELD FARM, W. ELLIOT HAMMOND, Goodland C. H., Va.**

High-Class Poland Chinas



Best registered blood. Strong-boned, healthy pigs, either sex, 4 mos. old, for \$7.50, all eligible to registry and first class. None but good ones shipped.

E. T. ROBINSON, Lexington, Va.

BILTMORE FARMS, - Biltmore, N. C.

Headquarters for GOLDENLAD JERSEYS,

Also Get of TREVARTH and GEN. MARIGOLD. ❀ ❀ ❀

GOLDEN LAD'S SUCCESSOR. First and sweepstakes over all at the Pan-American Exposition, the champion JERSEY BULL OF AMERICA, and out of Golden Ora, our great prize-winning cow, both born and developed on these Farms, is among our service bulls.

Biltmore Jerseys are a combination of large and persistent milking qualities with an individuality that wins in the show ring.

SPECIALTY. Write for descriptive circular of the best lot of young bull calves ever offered, both for breeding and individuality. They are by noted sires and out of large and tested selected dams. Many of these calves are fit to show and win in any company. ❀ ❀

BILTMORE POULTRY YARDS. ❀ ❀

SPECIALTY. Write for descriptive circular of eggs from our prize-winning pens. Over 50 yards to select from, made up of the winners at the leading shows for the last two seasons. If you want winners you must breed from winners.

Headquarters for the best IMPORTED ENGLISH BERKSHIRES.

APPLY TO BILTMORE FARMS, BILTMORE, N. C.

EGGS FOR HATCHING

The Imperial Fruit and Poultry Farm

❀ ❀ Is now booking orders for eggs for hatching from strictly pure, high-class poultry, at \$1.00 for 15 eggs, except duck eggs, which are \$1.00 for 13. ❀ ❀

**BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS,
SINGLE COMB WHITE AND S. C. BROWN LEGHORNS,
SILVER LACED AND WHITE WYANDOTTE,
MAMMOTH PEKIN DUCKS.**

Satisfaction Guaranteed. Write your name and address plainly.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

RED POLL CATTLE

Best for Milk, Butter and Beef.

Poland China Pigs.
Shetland Ponies.
Pure-Bred Fowls.

Arrowhead Stock Farm,
Charlottesville, Va.

ORCHARD HILL PURE-BRED

POLAND CHINA

Pigs and brood sows for sale. Also a fine Guernsey Bull Calf and S. C. B. Leghorn Eggs. F. M. SMITH, JR., R. F. D., 4, Charlottesville, Va.

"PERFECTION"

POLAND CHINA BOAR.

Handsomest and best bred P. C. Hog in Virginia. 14 mos. old, registered, first \$30 gets him. Llewellyn Setter Puppies and Duroc Jersey Pig, most fashionable breeding. THE CEDARS F. & S. FARM, Midlothian, Va.

Poland Chinas

I have a few very choice Boar pigs for sale. All can be registered, and are fashionably bred. Sows all sold. J. W. HARVEY, Lindward, Va.

Poland-Chinas and Chester Whites

AT FARMER'S PRICES.

S. M. WISECARVER, - - Rustburg, Va.

PIT GAMES

Black Devils and Red Cubans.

Where they won, Sharon, N. Y., 4 out of 5. Blue Rock, Pa., 2 out of 3. Clarion, Pa., 5 straight. Roanoke, Va., 8 out of 9. Akron, Ia., 2 straight. Eggs, \$2 per sitting. Young trios, equal size, \$2.

THOS. W. JARMAN, Yancey Mills, Va.

Piedmont Poultry Place,

"Handles nothing but the best."

We now offer Pure-bred POLAND-CHINA Pigs for sale. We will not sell under 8 weeks old. Single pigs \$6; per pair \$10; per trio, \$14. Some ready for shipment May 15th. First orders get best pigs.

Miss E. Caffie Giles, Prop.,
Whitties Depot, Va.

Fowls For Sale.

S. C. B. Leghorns, B. P. Rocks, S. C. Black Minorcas, 75c. each. Must close out my business at once. Miss S. M. HITER, Ellsville, Louisa Co., Va.

AGRICULTURAL EDUCATION.

The movement to secure an agricultural education through the public schools of the country is steadily increasing and from time to time manifests itself through unusual channels. At the recent convention of the Travelers' Protective Association at Springfield, Illinois, addresses were made on this subject and the Association voted to present the matter before the National Educational Association at its coming annual convention at St. Louis.

The Travelers' Association passed a comprehensive resolution setting forth that the stability of our social and business condition and the prevention of recurring periods of trade depression require that the balance of our population should be maintained on the land as independent home owners and producers from the soil and that ways should be found and carried out for placing upon the land all unemployed labor and transforming every "out-of-work" into the owner of a home on the land from which he can at all times get a comfortable living with his own labor. It was set forth that the entire American educational system should be so remodeled as to induce every child to be a lover of nature and of the country and to train him toward the land as a source of livelihood rather than away from it; that children should be taught to farm as they are now taught in France and Denmark in the public schools and that farm training schools should be established by county, municipal, State and national governments.

The resolution further called attention to the great remaining public domain in the West as by far the most valuable asset of this nation which will furnish an outlet for our surplus labor during this and coming generations, urging that it be reserved for real home builders who will farm it in small tracts.

The Association appointed a permanent Committee on Education, Irrigation, Forestry and Land, with a member from each State and territory to carry out the idea of this resolution.

PREFERS IT TO ANY OTHER MADE.

Waterford, Ky., April 18, 1904.

Dr. Jos. Haas, 7 S.,
Indianapolis, Ind.

Dear Sir,—I have been using your Hog Remedy for a number of years, and prefer it to any other made. It has saved me several hogs when my neighbors lost theirs.

Yours truly,
HARRY COCHRANE.

THE JOKE BOX.

Cannibal King: That missionary made an awful fuss, didn't he?

Head Chief: Terrible, sir. His struggles were frightful.

Cannibal King: Well serve him as a piece of resistance.

3 Thoroughbred Mares FOR SALE.

VOLEE, B. M. Foaled 1891, by Volante, winner of the American Derby, 3rd place of Grinstead and Sister Ann, by imp. Glenelge. First dam imp. Lady Trappist, dam of five winners, by Trappist; second, Vic by Albert Victor; third, dam Modena by Farmesan, etc. This mare is a winner, and has a ch. c. Foaled May 19th by the Great Trial winner Chiswick, by imp. Mr. Pickwick—Allice Bruce by Fellowcraft. Price of mare and colt, \$350.

DEABLESS, B. M. Foaled 1886, by Montfort, son of imp. Mortemer and Revolt, by Lexington. First dam, Miss Grace (sister to Diablo), by Eolus; second dam, Grace Darling, by Jonesboro; third dam, Ninetta, by Revenue, etc. This mare has a filly foal, which will not be sold, so mare cannot be delivered until early in September. Price, \$300.

DARTE, Br. M. Foaled 1900 by imp. Water Lever, sire of Isorothy and Water Lilly by Lord Lyon. First dam, Fearnot, by Jim Gray; second dam, Fearless, by imp. St. Blaise; third dam, imp. Dauntless, by Macaroni, etc. This mare has won races. Price, \$300.

All of these mares are fine individuals, and are royally bred, and all have been bred, and are believed to be in foal to the young imported horse, Aldine, by St. Simon. First dam, Ronaldina, by Barcalaine; second dam, Lady Ronald, by Lord Lyon; third dam, Edith, by Newminster, etc. Address

WILLSON CHAMBERLAIN,
R. F. D. 2, Charlottesville, Va.

OAK-HILL FARM.

SADDLE HORSES, JERSEY
AND ABERDEEN ANGUS CATTLE,
BERKSHIRE HOGS,

—FOR SALE—

Shipping point Oak-Hill, Va., (Station on farm) on D. & W. Ry. 15 miles west of Danville, Va.
SAM'L HAIRSTON,
Wenonda, Va.

ELLERSLIE FARM.

Thoroughbred Horses
AND SHORTHORN CATTLE,
Pure Southdown Sheep
and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.

4BULL CALVES

from 1 to 12 months old from Jersey cows, by registered Holstein bull, for sale. In fine condition, and have marks and characteristics of sire. Prices, \$15 to \$25. Also a HACKNEY BROOD MARE of fine qualities at \$125, and Stallion Colt, 16 mos. old, by registered Hackney sire, of perfect form and action, and is now nearly as tall as its dam. Price, \$150. T. P. SHELTON, Jetersville, Va.

—ONE REGISTERED—

HEREFORD BULL

calf, 10 months old for sale, or will exchange for a heifer.

W. J. McCANDLESS Brandy Station, Va.

LIGHT BRAHMS.

Pure bred stock from prize winning strains. Old and young stock for sale. Hens, \$1.50; roosters, \$2.50; pullets, \$1; cockerels, \$3.00. J. H. FRASER, Cartersville, Va. (Cumberland county).

COTTAGE VALLEY STOCK FARM.

FINE STOCK FOR SALE LOW

7-8 and 15-16 GRADE ANGUS BULLS AND HEIFERS from 6 months to 2 years old. One bull calf half Angus and half Short-horn. Fine Buck Lambs out of Shropshire Ewes by Reg. Dorset Buck. Fine family milk cows fresh young and gentle. One pair splendid 1200 lbs. Bay Mares 6 yrs. old, first class all round farm teams and very good roadsters. Silver Lace Wyandotte Cockerels and Pullets at one dollar each.

W. M. WATKINS & SONS, Saxe, Va.

ABERDEEN-ANGUS Bull Calves.

I offer for sale two pure bred bulls of the above breed, born Dec. 15, and Jan. 30 respectively, sired by my registered bull, ROCKBRIDGE ABACTOR, No. 40364, and out of pure bred but unregistered cows. The Dec. 15 calf is full brother to one sold last season to Mr. Beard, of Moffatts Creek, Augusta county. The other is out of my largest cow and very promising. These calves will be kept with their dams until nine months old. \$50 each.

I have also a fine registered bull calf that will be ready for delivery in February. \$100. No females sold.

B. F. DAY, Glasgow, Va.

MONTEBELLO HERD

ABERDEEN-ANGUS CATTLE.

FOR SALE—Registered Bull calves from 3 months old, up.

L. H. GRAY, Orange, Va.

ROSEDALE HERD

Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as low as good breeding will permit. Inspection of herd and correspondence invited.

ROSEDALE STOCK FARM, Jeffersonson, Va.



ANGUS & HOLSTEIN CATTLE. Registered and graded, of all ages and sexes, and of champion blood for the beef and milk strains and at moderate prices. Also Nursery stock of all descriptions.

MYER & SON, Bridgeville, Delaware.

REGISTERED

Guernsey Bull

2 1-2 years old for sale, to avoid inbreeding. For further particulars, call on or write me at 1534 E. Main street, Richmond, Va. C. M. BERGH.

THE LITERARY TALENT OF RICHMOND.

MARY WASHINGTON EARLY.

Article No. 2.

Amongst the native authors in whom Richmond may justly take pride I may mention John R. Thompson, who was born in that city in October, 1823. He received his earlier education at East Haven, Conn., but took a later course at the University of Virginia, where he graduated in his 22d year. He also returned there two years later and took the degree of bachelor of law. During the ensuing fifteen years, he was editor of the "Southern Literary Messenger," and wrote a series of able and discriminating reviews, book notices and essays on literary subjects. During this period, he produced several poems on special occasions, and essays in verse which were delivered in public. Amongst these, I may mention his fine ode on the inauguration of the equestrian statue of Washington, at Richmond, February 22, 1858.

He also wrote numerous lyrics and other short poems and contributed largely to several leading periodicals, both North and South. His poetry was distinguished for polish and correct taste, and more than this, it shows vitality of feeling. His best known and most admired poem, I believe, is "The Battle Rainbow," written just after the seven days battle around Richmond and founded on the circumstance that on the eve preceding "this long week of glory and agony," a violent storm took place, succeeded by a magnificent rainbow which overspread the eastern sky, seeming to define the position of the Confederate army as viewed from the Capitol in Richmond. But, alas for us! This good omen proved as illusory as the fabled bag of gold tied at the end of the rainbow.

In addition to his poetical gifts, Thompson also possessed an immense fund of learning, and this he drew on freely, both in his writings and his lectures, though there was no pedantry about him. He had the combination of gifts that make a fine lecturer, and made himself a high reputation in this field. I remember well hearing him deliver a deeply interesting lecture, during the war, on Edgar Poe, a subject he was especially well fitted to treat of, both from his personal intimacy with the illustrious poet, and from his fine powers of discernment and discrimination.

John R. Thompson's talents and scholarship were (I believe) even more highly appreciated in England than in this country. He was traveling abroad to recruit his health when the culmination of the civil war arrived, and he remained a year or two thereafter in London, connected with the London Herald, and a contributor to Blackwood and the Cornhill Magazine. During the civil war, he was the correspondent of "The Index," the

PLEASANT VALLEY STOCK FARM

SHORTHORN

calves from fine milking stock.

Yorkshire Pigs

of prolific breed.

JAMES M. HOGE, Hamilton, Va.

REG. SHORT HORN BULL

FOR SALE

Solid Red, white tip on switch, calved October, 1901. Very handsome, large and thrifty. Milking family. Immune and acclimated to Southside Virginia. Price, \$100. Address W. F. STEPHENS, Bracey, Va.



COOK'S CREEK HERD

SCOTCH - TOPPED SHORTHORNS...

Herd Headed by Governor Tyler, 1858-59, first prize aged bull at Radford Fair, Young Bulls and heifers for sale. Inspection and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

SHORT HORN BULLS

For sale, from 3 to 20 mos. old; sired by VERBENA'S CHAMPION, No. 129881, and ROYAL CHIEF, No. 185432. Some good POLAND CHINA spring pigs and 2 nice fat boars. All stock eligible to record. Rare bargains for stock buyers.

WM. T. THRASHER, Springwood, Virginia,

—The Woodside—

Jersey Herd.

Bull Calves and Yearlings
Richly Bred.

DAVID ROBERTS, - - Moorestown, N. J.

Swift Creek Stock and Dairy Farm



Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS AND HEIFERS.

None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 4 to 6 months old, \$25; Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

T. P. BRASWELL, Prop., Battleboro, N. C.

A FINE

Jersey Bull

for sale. 3 years old and registered; also 1 yearling and 1 this year's bull calf, entitled to registry. 1 DORSET HORNED BUCK LAMB. J. B. JOHNSON, Clover Hill Farm, Manassas, Va.

Confederate organ published in London.

On his return to this country he settled in New York, and engaged on the staff of "The Evening Post."

While Richmond has lately shown such honor to the memory of her adopted son, the distinguished Dr. Hunter McGuire, I hope the day is not far distant when she will be mindful of the claims of the gifted John R. Thompson, and erect to his memory a statue or a shaft, doing homage to his talents, his scholarship and his high character.

Speaking of John Thompson reminds me of a Richmond poetess, Miss Susan Archer Talley, and one of more than ordinary ability. Although born in Hanover county, Va., she was only 8 years old when her father moved to Richmond, and there she grew up, and was educated. She lost her hearing early in life, but this did not seem to interfere with her mental development. At thirteen, she commenced writing poetry, and at sixteen, some of her poems were published in the "Southern Literary Messenger," to which journal she contributed for several years. The critics dealt kindly with Miss Talley. Griswold gave her unqualified praise, and Poe ranked her high, giving imagination as her distinctive characteristic. In 1859, she published a volume of poems in New York. The chief poem in the book, "Ennerslie," gives the reader a distinct reminder of "The Lady of Shalott." There is a noary tower, grim and high, a river gliding by, a lady fair, and pale young Lord Ennerslie, all producing an atmosphere resembling that of "many towered Camelot." Next to "Ennerslie," I believe her most admired poems are "Madonna," "Cloistered," "Guy of Mayne," "Rest," and "Autumn Rain." She sometimes also writes very good short stories in prose. Her married name is Mrs. Von Weiss, she having married a German.

The present generation of Richmond authors does great credit to that city. Miss Ellen Glasgow and Mr. James Branch Cabell are, I believe, the most prominent of the young authors of Richmond, although Mrs. Charles G. Boshier, of that city, author of "Bobby" and "When Love is Love," is also coming to the front. Miss Glasgow has made her mark as a novelist, while Mr. Cabell's specialty lies in charming little romances laid in medieval times. These are somewhat in the vein of Anthony Hope, and do not fall short of that writer. Scattered through these tales we find delightful little lyrics (as, for instance, "The Castle of Content,") which prove the existence of a vein of poetry in Mr. Cabell. His aunt, Mrs. Isa Cabell, for many years a resident of Richmond, though now of Norfolk, is also a person of literary talent, and has written quite extensively for publication.

Mrs. Burton Harrison, though not a native of Richmond, was very much

FARQUHAR *Pea and Bean Threshers*

Farquhar Pea Huller No. 1



Hulls all kinds of peas and beans from the pods. Cleans them thoroughly without breaking or cracking. Not an experiment or a cheap machine made just to sell, but a good, solid, substantial, money-making and labor-saving device. Just what every farmer who raises peas or beans, no matter how small the quantity, wants. You cannot afford to be without one. It will more than save you the cost in one season. Thousands of testimonials.

Special discounts to introduce the first machine in each locality. Write for particulars and catalogue.

A. B. FARQUHAR CO., Ltd., YORK, PA.



FARQUHAR

Pea Vine Thresher and Shredder No. 5

Can be run with 8 to 15 H.P. engine. Threshes and cleans all kinds of peas and beans from the vines, and shreds the vines. Makes valuable shredded hay and turns the vines into money that would otherwise be wasted. Shells corn from the ear and shreds the fodder. Only perfect machine made. Don't cut or saw, but shreds the fodder without rough sharp edges to make the cattle's mouth sore. Shredding is done with a double cylinder. Machine is strong, substantial and well-made throughout.

SPRING LITTERS.

We have now coming ready for shipment seven litters of

LARGE YORKSHIRE PIGS

All recent experiments place this breed in front, as the best and most profitable bacon hog. They will raise 40 per cent more pigs and they will grow faster and make more pork in a given time than any other breed.

Also BULLS, YOUNG COWS and HEIFERS from our great JERSEY COWS.

BOWMONT FARMS. Salem, Va.

Reg. HOLSTEIN-FRIESIAN

CATTLE of the Netherland, De Kol, Clothilde, Pieterje

and Artis families. Heavy milkers and rich in butter

fat. Stock of all ages for sale.

Reg. BERKSHIRES From noted strains; Imported Headlight, Lord Highclere and Sunrise.

DORSET SHEEP

B. PLYMOUTH ROCK CHICKENS,

N. & W. and Southern R. R.

T. O. SANDY, Burkeville, Va.

...Jersey and Guernsey Heifers...

FOR SALE

Berkshire sows due to farrow in April and May, several boars large enough for service, pigs in pairs or trios not akin.

EGGS FOR HATCHING from Bronze turkeys, Pekin ducks, B. P. Rock and Brown Leghorn fowls. A few trios for sale, also a fine lot of Fox Terrier puppies by imported Rozanne.

M. B. ROWE & CO., Fredericksburg, Va.

When corresponding with our advertisers always mention the
SOUTHERN PLANTER.

To Stock Raisers and Dealers.

I can furnish you on short notice with any number of

Stock or Breeding Ewes.

REASONABLE TERMS TO RESPONSIBLE PARTIES.

Breeding ewes from \$2.50 each for a plain class, up to \$1.50 each for a fancy, high bred black-faced class. Can sell a good, strong, young, serviceable class of Ewes at \$3 to \$2.50 each. I will have during August and September a grand lot of STOCK RAMS, from \$7 to \$15 each, according to age, breeding and quality; a few fancy yearling Shropshires at \$20 each.

Write me what you want either in stock sheep or stock and feeding cattle. I can fill your order, and will please you.

Cattle, Sheep, Lambs, Calves and Hogs Sold on Commission.

HIGHEST MARKET VALUES GUARANTEED.

Accurate weekly quotations. All consignments receive my strict personal attention.

Address: P. O. Box 204.
Pens: Union Stock Yards, Richmond, Va.
Office at Union Stock Yards.

ROBERT C. BRAUER, Successor to Brauer Cattle Co., **Richmond, Va.**

identified with that city in her youth, having received her education there, and lived there during the war.

Richmond has at least a half claim to Amelle Rives, she having been born in that city in August, 1863, and her mother (Miss Sarah McMurdo) having been a native and resident of the place. Amelle Rives is undoubtedly a writer of great versatility, and of tropically rich gifts. She has not only made her mark as a novelist and writer of short stories, but she has also a rich vein of talent as a poet and a dramatist.

Amongst the literati, who though not native to Richmond, have taken up their residence there and identified themselves with the place and people, I might mention Captain W. Gordon McCabe, one of the prominent educators of the South—a man of high scholarship and marked literary talent.

THE FINEST HEREFORD BULL IN VIRGINIA.

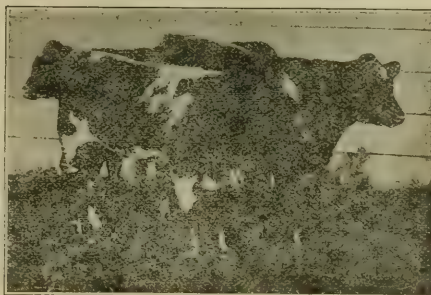
In this issue will be found an advertisement offering Lars, Jr., the finest Hereford bull in the State for sale. He is not only royally bred, but has been developed with the best of care and attention in the celebrated herd of Mr. Murray Boocock. He is in the prime of life and good for many years' service. We should not like to see this bull go out of the State, and would urge some of our enterprising breeders to avail themselves of the opportunity of securing him. He cannot fail to be a most profitable investment. Look up the advertisement and attend to the matter at once, as there are certain to be many parties after him.

JUST SO.

"In some respects rats are much wiser than human beings. They—" Really he did not look it; but then, you know, you can never tell when some people are loaded; "—always gnaw a good thing when they see it."—August Woman's Home Companion.

Mrs. Auger—I can't see why my husband should be jealous of me.

Her Friend—No one can, my dear.



Glen Farm

Importer and Breeder of

Polled Durham Cattle

Southdown Sheep

and Poland China Hogs.

Polled Durhams are Short-horns with the horns bred off. They are all either red or roan. Buy a polled Durham and lay aside the bloody dehornor.

JOHN S. FUNK,
Singers Glen,
Rockingham Co., Va.

SUNNY HOME HERD OF Aberdeen Angus Cattle

has been reinforced for sale by the **WILLOW OAKS HERD** (property of Mr. T. B. Fitzgerald, former President of Riverside Cotton Mills, Danville, Va.) This herd was founded in 1902 by the purchase of a car load of the best females money would buy in Central Illinois. One of our customers writes as follows:

UNION, S. C., June 4, 1904.
DEAR FRENCH,—I have been at my farm and have taken several good looks at the two heifers. They are beauties, especially Miss stubbs 2nd, and I am proud of them. Enclosed is my check for \$50.00 in payment for them. The bull, Carolina's Gay Lad, that you sent me last fall is one of the finest looking fellows I ever saw—is a daisy. Very truly,
W. R. WALKER.

Mr. Walker owns the largest herd of Angus in South Carolina. We make it a point to furnish the above-described sort of cattle. Write for circular and prices to

A. L. FRENCH, Byrdville, Va.

Station, Fitzgerald, N. C., on D. & W. Railway, 24 miles from Danville.

HIGHLAND STOCK FARM.

PURE-BRED STOCK A SPECIALTY.

SPECIAL PRICES for this month on

**Shorthorn Cattle,
POLAND CHINA PIGS,
SCOTCH COLLIE PUPS.**

All Stock Recorded. - - - Write for Prices.

HENRY S. BOWEN.

Witten's Mills, Tazewell Co., Va.

MAGAZINES.

The August Century is in fact as well as in name a Midsummer Holiday Number, being pervaded with the holiday and outdoor spirit. Eight colored insets present Italian villas by Parrish, Bermuda submarine life by Knight, an old-time croquet party by Miss Betts (who made the much-admired color drawing, "The Easter Bonnet"), and a newly discovered natural bridge by Penn.

The last of these illustrates a great "find," being one of three pictures of colossal natural bridges accompanying an account by W. W. Dyar of a recent discovery in Southeastern Utah, which has excited a veritable sensation among the few geographers and others to whom it has been known. These bridges are of much greater proportions than the Natural Bridge of Virginia, and they have not before been pictured nor described in print.

Castaigne, whose pictures of the Chicago, Paris and Buffalo Expositions appeared in The Century, contributes a group of drawings of the Louisiana Purchase in his usual vivid and picturesque style.

"Summer Splendors of the Chinese Court" is an illustrated personal narrative, by Minnie Norton Wood, of a reception by the Empress Dowager at the summer palace near Peking—the summer function of the sort to which foreigners have been admitted.

The number is crowded with holiday features: "The New Coney Island," by Albert Bigelow Paine, with drawings by Yohn; "Visiting in Country Houses," by Eliot Gregory, with drawings by Charlotte Harding; "The Old and Novel Sport of Archery," by A. B. Casselman, apropos of the Olympic Games at St. Louis, illustrated; "Lombard Villas," by Edith Wharton, with Parrish's pictures; "What Do Animals Know?" by John Burroughs. Six or seven poems add further to the seasonable character of the number. There is also a continuation of Andrew D. White's anecdotal recollections of "Russia in War Time," and a reproduction of Volk's handsome painting, "The Belle of the Colony."

Commencement of a promising new serial and the conclusion of B. L. Farjeon's quaintly entertaining "A Comedy in Wax" mark the August St. Nicholas. The new story, which will run till November, is "Elinor Arden, Royalist," from the pen of Mary Constance Du Bois, and is said to be based upon an actual historical incident. The tale deals with a dear little maid and her stirring adventures in the time of the Cavaliers and Roundheads, and has many illustrations by Benda. The number, too, has the second installment of the unique Japanese serial, "Kibun Daizai, or From Shark-Boy to Merchant Prince," by the Japanese writer, Gensai Mural. There is another good story of "varsity life and baseball, "The Out-Curve," by Leslie W. Quirk, who has written before, and

Large English Berkshires.

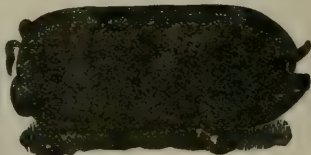
BOARS ready for service.

Pigs ready to ship.

Bred Gilts.

Forest Home Farm,
Purcellville, Va.

86 BERKSHIRE PIGS



now ready for shipment; 10 to 12 weeks old, from directly imported sows or from sows of imported blood on both sides; sired by my 4 UNSURPASSED HERD HEADER BOARS from N. Benjafield, C. Collins Smith, James Lawrence and E. W. Hudson all of England. BRED SOWS, GILTS and ready-for-service BOARS. Prices as low or lower than those of any other STANDARD breeders, novices not reckoned.

THOS. S. WHITE, Fassifer's Stock Farm, LEXINGTON, VIRGINIA.

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"Bred-in-the-Purple."

"The
Very Best."—
The whole story in
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Berkshires...

Extra Choice Young Stock now ready for Shipment.

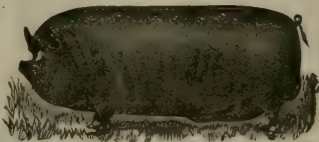
Large number of Litters of the best English and American breeding. MONEY CANNOT BUY BETTER!

DUNTREATH STOCK FARM, RICHMOND, VIRGINIA.

We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING.

Proprietor of the Bridle Creek Stock Farm, Warrenton, N. C.



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FROM THE VERY BEST STRAINS.

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If so, list it with us. No sale, no charge. Largest list of farms for sale in Virginia. Write for Free Catalogue.

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BERKSHIRES AND HEREFORDS

PLACE ORDERS NOW FOR SPRING PIGS

and get choice selections. A few Fall pigs at a bargain
if sold at once. Prices reasonable. 

EDWARD G. BUTLER.

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Briggs, Clarke Co., Virginia.

always acceptably, for the boys who read St. Nicholas. "Stories of my Pets," Don the bullfinch, Dick the cat, and Lady, a fine saddle horse, recounts interesting anecdotes of Helen Harcourt's pets; and F. E. Hawson, tells about "When the Birds Were Our Guests," a true and charming incident. Not stories, but as interesting as fiction, are W. J. Henderson's "A Naval Boat Drill" and Charlotte C. Parsons' "A Summer Day at Innsbruck."

A cousin of the President's, Maude Roosevelt, is, in the matter of strenuousness, evidently a disciple of her distinguished relative. She contributes to the August Lippincott's Magazine the leading novelette, entitled "Social Logic." This is naughty enough to engross without being naughty enough to repel. It is a tale of gay New York and gayer Paris as it follows the fortunes of two attractive girls of good family, but small means, who drift together in a boarding house. In device and characterization Miss Roosevelt shows equal facility and feeling. She is at present finishing her studies for Grand Opera under Marchesi at Paris, and not very long ago her name appeared in the James K. Hackett theatre company touring in America. Such is her versatility! The short stories of the month appeal both for their variety and liveliness. An especially clever and timely tale by Eleanor A. Hallowell is called "Old Home Week in Bohemia." It makes the reader wish he could have been one of the rollicking reunion. Seumas MacManus, sans dialect, is preeminently fine. His story, "The Sacrifice of Nabla," which is a brilliant example of this style, excels in power and pathos. Vincent Harper, a Canadian writer, contributes a sprightly summer story of Bar Harbor doings under the title of "Appendix B." It contains an ingenious hit at the prevailing "appendicitis habit." A little story by Emanuel-Lissner called "A Piute Tragedy—or Comedy" shows well-concentrated artistic quality. The "summer widowers" and their invisible wives should not fail to read Mary Moss' acute tale called "Marooned." It might be labelled "Cure for Heartache—if taken in time." The Baroness von Hutten's third appearance in

Bacon Hall Farm.

Hereford Cattle -:- Berkshire Hogs

REGISTERED—ALL AGES.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

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HEADED BY THE FAMOUS **ACROBAT 68460,**

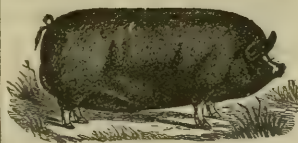
Choice young stock for sale at all times. Visitors welcome.
Come and inspect the best herd in the South

ROSEMONT FARM. Berryville, Clarke Co., Va.



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KESWICK, VA.



THE - OAKS - STOCK - FARM.

A. W. HARMAN, Jr., Treasurer State of Virginia, Prop. Richmond, Va.

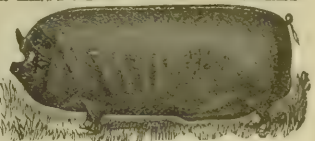
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Large ENGLISH BERKSHIRES

for less money than any firm in the South, quality considered. Every pig shipped possesses individual merit. Pedigree furnished with all stock. Kill or sell your scrubs and buy hogs that will pay. For prices and description address
ALEX. HARMAN, Mgr., Lexington, Va.

GLENBURN FARM BERKSHIRES

This herd is composed of four royally bred, imported sows, and an imported boar from the celebrated herds of Mr. Fricke and Mr. Hudson, England, and selected American bred animals from Bltmore and other noted herds. Dr. J. D. KIRK, Importer and Breeder, Roanoke, Va.



Mike—Are ye much hurted, Pat? Do ye want a docthor

Pat—A docthor, ye fule! Afther bein' runned over by a trolley car? Phwat oi want is a lawyer.

WANTED,

A mahogany, carved Post Tester Bed. Address, with price, "M." Box 485, Richmond, Va.

"Lady Moyle" stories is this time "About Isabel Ganning." She uses the spice-box with a free hand.

The August Woman's Home Companion contains features for everybody. "The Wonders of Modern Bridge-Building" is a popular article that reads like fiction. "House-Boating on Lake St. Clair" is a vacation feature. In "Which is the Beautiful Sex?" Henry T. Finck advances the theory that men are more beautiful than women. Edward A. Steiner, Tolstoi's biographer, tells of a pilgrimage to his home. The Rev. Francis E. Clark, D. D., writes of Christian Endeavor. The fiction is not second in prominence to feature. There are short stories by Mrs. Spofford, Agnes L. Provost, Bert Taylor and Emery Pottle. Published by The Crowell Publishing Company, Springfield, Ohio; one dollar a year; ten cents a copy.

THE PARCELS POST.

Editor Southern Planter:

Knowing that the SOUTHERN PLANTER has the welfare of the farmers at heart, let me make a suggestion, which please take for what it is worth.

It is needless for me to remind you of the many benefits that a parcels post would confer on the farmers of our country, and if the farmers only urge it on their Representatives in Congress such legislation would be quickly enacted, but, as you know, that the farmers as a rule are averse to letter writing, therefore I offer as a suggestion for your consideration that you print each month a properly worded petition, with blank space for farmers' name and address, and urge your readers to fill out and send to their representatives. By this means I believe that thousands of your readers would let their wishes in this matter be known to their Congressmen, who otherwise would not take the time and trouble to write them a letter. This is worth working for, and let us all pull together and we will get it.

R. F. FLESHMAN.

We heartily commend this subject to the attention of our readers. Write your Senator and Congressman on the subject, or cut out and send the following request to them:

To the Hon.....

Please support with your vote and interest any bill introduced in Congress to put into operation a Parcels Post throughout the country.

Name

Address

SHALLOW.

Yaleton—"Did you read my article on the Hudson River, Professor?"

Professor Flippe—"Well, I just waded through it—it wasn't very deep, you know."—August Woman's Home Companion.

PERFECTION AT LAST ECLIPSE FRUIT-PICKER

PATENTED. Will not bruise. Buy one and save your finest and high-price fruit that hangs where you can't get it in good condition without one of these pickers. You will never rue the bargain. REMEMBER the first time you go to the Hardware Store, ask for the ECLIPSE FRUIT-PICKER, and no other make. If they don't have or get them for you, send 25 cents for one by mail postage paid. Guaranteed the best, or money refunded. Testimonials furnished. Order to day.

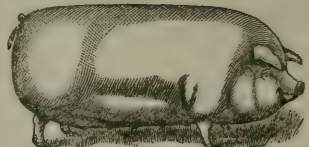
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Pigs from registered stock, 8 weeks old, \$5.00. A few nice POLAND CHINA Boars ready for service, for \$10 to \$15.

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Registered Herd—First Premium stock; largest and most prolific hog on record: 8 Sows 41 Pigs; breeding Stock 400 to 700 pounds; easy feeders and quickly developed. Sows, Boars and Pigs for sale. My time to this breed exclusively. Only strictly first class stock shipped.

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Reference: Farmers and Merchants National Bank, Winchester, Va.

We Are Still in the Business...

"HILL TOP" Stock at Shadwell, Va.

Having changed our residence, we brought with us and have for sale a choice lot of HILL TOP stock.

Southdown and Shropshire Sheep, Berkshire Hogs and B. B. R. Game Chickens.

Our Berkshire Pigs are now closely sold up, but we have a few left; will have a fine lot ready to ship by September 1st. We will be glad to serve our old friends and are always glad to make new ones.

We have won more premiums on sheep and hogs at State and County Fairs than all other breeders in Virginia combined.

H. A. S. HAMILTON & SONS, Shadwell, Va.

"HOG LOGY" MY BOOK ABOUT HOG RAISING, FREE

I want every swine raiser to possess a copy of this book, and will send it FREE to all who mention the Southern Planter when asking for it. The advice and information given is practical and complete and is the result of nearly thirty years' study as a swine specialist and veterinarian. Send for it to-day, it will be worth many dollars to you, and you do not oblige yourself in any way to me by asking for it.



TRADE MARK.

CASH FOR ALL HOGS THAT DIE.

Full particulars of my insurance proposition, whereby I pay for all hogs that die when my remedy is fed as a preventive, are given in "Hogology." This great remedy has stood the severest tests for more than twenty-eight years, and has proved itself the peer of all preparations for hogs. Prices, 25-lb. can, \$12.50; 12½-lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

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Costs less to buy and less to run. Quicker and easier started, has a wider sphere of usefulness. Has no vibration, can be mounted on any light wagon as a portable or traction. Weighs less than half of one-cylinder engines. Give up of engine required. Especially adapted for irrigation in connection with our centrifugal force pumps. (Sizes 2, 3, 4, 5, 6, 8, 10, 12 and 16 Horse Power.) High grade Gasoline Engines, 3 to 6 horse power—adapted for Electric Lighting, Marine and Pumping purposes. Mention this paper. Send for catalogue. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Streets, CHICAGO, ILL. This is our 50th year.

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"THE MASTER WORKMAN."
A two-cylinder gasoline engine superior to all one-cylinder engines.

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Pennsylvania Experiment Station,

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ALFALFA BACTERIA

in the shape of

INFECTED SOIL

from an old two acre Alfalfa plot which has given us 3 or 4 good cuttings yearly for the past five years, and is still doing well. Price, \$1.00 per bag (in 4 bag lots) of about 100 lbs.; more than 4 bags, 75 cents each; f. o. b. Midlothian.

J. B. WATKINS & BRO., Hallsboro, Va.

STOCK MEN, LOOK HERE!

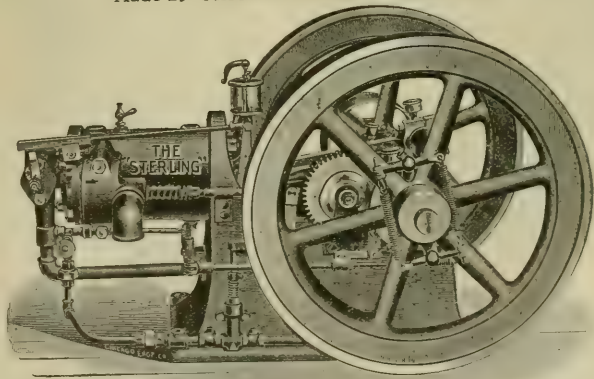
Do you know you can save 20 to 25 per cent. on cost of your STOCK DIPS and DISENFECTANTS by using MINOR'S FLUID? It is sold under a strict guarantee to be the equal in strength and effectiveness of any dip on the market.

NON-POISONOUS.—Used at BILTMORE FARMS, at MAPLEWOOD—the birthplace of the \$5,000 champion Hereford cow "Dolly 5", and by thousands of others. Write for circulars and prices to

A. L. FRENCH, Southern Agt., Byrdville, Va., Prop. the Sunny Home Herd, of Angus Cattle.

THE NEW ENGINE

Made by CHARTER GAS ENGINE CO.



and 3 Horse Power Horizontal Type with Water or Oil cooled Cylinder, Pumping attachment, either Electric Igniter or Hot Tube Igniter or both.

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GETTING RID OF HOUSEHOLD PESTS.

Rats and Mice—Peppermint sprigs laid around shelves and places these pests frequent will drive them away. Chloride of lime sprinkled about is also effective.

Ants and Roaches—Powdered borax scattered in their haunts is a "sure cure." One teaspoonful of tartar emetic mixed with one teaspoonful of sugar, and put where ants are troublesome, will drive them away in a day.

Flies—These may be driven away by scattering either lime or cayenne pepper in the places which they frequent. Oil of pennyroyal is also good.

Moths—These may be prevented by the use of moth-balls, or bags made of crushed lavender and lemon-verbena with clover and other pungent spice. Powdered borax, camphor and cedar dust are all effective.

Flies and Mosquitoes—The best preventive is tight screens and constant vigilance. Mosquitoes dislike lavender and green walnut. Fly paper is made as follows: Take equal parts of melted resin and castor oil, and spread while warm on strong, thick paper. Or use four ounces of quassia chips boiled in one pint of water. When cold strain, then add water to make one pint, and two ounces of alcohol. Sweeten with sugar, and pour in saucers.

Bedbugs—Use turpentine, corrosive sublimate, etc., but the surest method is to fumigate with sulphur.—August Woman's Home Companion.

HIS INQUIRY.

"The wife of that feller that just sung the sailor song," whispered the landlord of the Pruntytown tavern to the drummer who had accompanied him to the home talent entertainment in the village theatre, "is sulug him for divorce."

"That so?" was the reply. "Has she any other grievance besides his singing?"—August Woman's Home Companion.

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Prepares Boys FOR UNIVERSITY OR FOR BUSINESS

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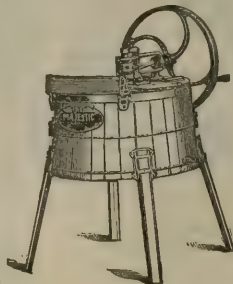
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CAPITAL, - - -	\$200,000.00.
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UNDIVIDED PROFITS, -	\$361,000.00.

Depository of the United States, State of Virginia, City of Richmond.

Being the Largest Depository for Banks between Baltimore and New Orleans, we offer superior facilities for direct and quick collections; accounts solicited.

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The Majestic Rotary Washer

has too many good points for explanation in an advertisement. Your name on a postal card will bring our booklet, with full particulars of our six different machines and how to get them. One of them will certainly please you. All are made with electrically welded wire hoops sunk in grooves—our patent. Being the largest manufacturers of woodenware in the world, we can make better machines for the money than any one else. If you want a machine that washes, buy one of ours.

THE RICHMOND CEDAR WORKS, Richmond, Va.

IMPROVING RURAL DELIVERY.

Only within a few years have some of us heard of Rural delivery the first time. Now it is in operation all over the country, and people are heard to say: "Why did we not have it long ago? We could not do without it."

Great as is the blessing of rural delivery, yet it could be improved. When it was first introduced we were told that each mail box would be a private post-office, and this is the idea exactly. Why cannot every mail box be numbered and a number be placed thereon, just as the boxes are numbered in a postoffice. The only reason it has not been done before this, is that we have thought the mail man the only one to be benefited thereby; but this is a false idea, for the advantages would be great to the resident as well as to the carrier. It is much easier to remember a number than a name, much more to remember a dozen names, as is necessary in the case of Farmer Taylor, with his wife, his ten sons and daughters, his two hired hands, and the cook. But think of it, this is only one among the scores of families that live on a single rural route. It is claimed by some that this numbering system would be impracticable, but why should it be? Suppose that your box is No. 42, on route No. 3, the address could be written thus: R. Route No. 3—42. What could be easier than this? In case the number is omitted in the address, the mail man could look on his indexed list and see at once, to which box the mail belongs. Not only would the adoption of this numbering system (1) greatly lessen the care on the mail man, but also (2) it would make the proper delivery of the mail doubly sure; (3) it would lessen greatly the amount of writing necessarily contained in the address; (4) it would render it possible for persons to advertise and correspond without the embarrassment of having their names appear in public print, besides conferring other benefits, the value of which we cannot now realize.

Is this a false theory, or is it sound doctrine? Whichever it be, is it not worthy of the attention of those who have the management of the R. F. D. system in hand?

"THREE'S."

MR. J. T. DUNN IS NOW WITH MR. ASHTON STARKE.

Mr. J. T. Dunn, who was formerly with the Farmers' Supply Company, and more recently with the Richmond Buggy and Wagon Company, has connected himself with the Ashton Starke Implement House, 1422 E. Main street, Richmond, Va., where he will be pleased to see and serve his friends.

Hostess—Won't you sing something for us, Miss Screecher?

Miss Screecher—Why, er, most of the guests have gone home, have they not?

Hostess—Yes; but some of them seem inclined to stay here all night.

Best Machine on the Farm



Farmers who have used the
**Improved Low Down Pennsylvania
Force Feed Fertilizer Grain Drill**

will use no other kind. The general belief is that this is the best machine of the kind. As in many cases, we give other horses a try. We will send you FREE a small book telling all about it and what it will do better than any other. Address: A. B. FARQUHAR CO., Ltd., York, Pa.

SUCCESS Manure Spreader



Leads every other machine for the mechanical spreading of manure. Its superiority appears in the fact that it is a distinct improvement on the Kemp Spreader, which we still manufacture and which has been the typical Spreader for 25 years. Spreads all manures of every character and condition and all commercial fertilizers. Saves time and labor, and gives a great quantity per acre, unloading the

largest load in 3 to 5 minutes; apron automatic, all returns to position in the next 30 seconds.

A SPECIAL FEATURED MACHINE
for convenience of handling and perfection of work. Notably superior in its Beater Drumming device, Direct Chain Beater Gear, Speed Regulation and Automatic Return of Apron. Positive and dependable in all movements. Simplest in gear, lightest in draft, least chance for breakage. The driver never dismounts for any purpose but controls everything from his seat. Made in four sizes and sold under strongest guarantee as to materials, workmanship and duty. Investigate fully before buying. Catalogue with valuable chapter on farm fertilizing mailed free.

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Who Wants the
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The Endless Apron Great Western Manure Spreader.

SPREADS and pulverizes all kinds of manure, forest, well rotted, mixed, full of straw or cornstalks, sheep manure. No matter how tough, we guarantee our spreader to spread it so evenly that one load will do more good than three spread by hand. **Endless Apron** is always ready to load. **No turning back** after each load is spread. Front wheels cut under and machine can be turned in its own track. **REGULATED** motion

to spread thick or thin. Our non-bunchable rake holds all large chunks on top of better until they are thoroughly pulverized. Combined Hood and End Gate keeps manure away from beater while loading and acts as wind hood in spreading. **LIGHTEST DRAFT** ever produced on a manure spreader, because front and rear wheels track and the load is nearly equally balanced on front and rear axles which brings load up close to horses. **Made in 4 sizes: 30, 50, 70 and 100 bushels capacity.** Inquire of your dealer or send to us for catalogue.

SMITH MANURE SPREADER CO. 16 & 18 SOUTH CLINTON ST. CHICAGO, ILL.

Steam is the Best



After all, the best most reliable, most efficient and in the end the cheapest power is steam. Wind is whimsical and unreliable; water power can only be used a few months each year; but the gasoline power goes out of order more than half the time and electricity the current itself depends on steam power. The sure power is a

Leffel Engine and Boiler.

This outfit is delivered in a mounted or skid and engine on separate base. Engine can run on either side of boiler and any reasonable distance away. Large or small, they are made in either end or middle shaft. A highly efficient, quick starting, high power developing outfit. Suited to any work, any soil, anywhere. We make many other kinds and sizes of Leffel engines and boilers. **Look for Power Economy and Efficiency.** J. B. ASHTON STARKE, James Leffel & Co., Box 134, Springfield, Ohio. Richmond, Va.

ELMWOOD NURSERIES..

—WE ARE GROWERS AND OFFER A FINE ASSORTMENT OF—

APPLES, PEACHES, PEARs, CHERRIES, PLUMs, APRICOTS, NECTARINES, GRAPEVINES in large assortments, GOOSEBERRIES, CURRANTS, STRAWBERRIES, HORSE RADISH, ASPRAGUS, DEWBERRIES, and an extra fine lot Raspberries. Splendid assortment ORNAMENTAL and SHADE TREES, ORNAMENTAL SHRUBS and HEDGE PLANTS.

EGGS from B. P. ROCK and BROWN LEGHORN FOWLS at \$1.00 per 13. Also a few pullets and cockerels of these breeds at \$1.00 each for immediate delivery. Write for Catalogue to

J. B. WATKINS & BRO., Hallsboro, Va.

AMERICAN BREEDERS' ASSOCIATION.

The general chairman of the membership committee of the American Breeders' Association, Mr. Eugene D. Funk, Bloomington, Illinois, is progressing with his campaign for a large membership for that new organization. The State chairmen in the various States, and other State committeemen, are inviting thousands of animal breeders, plant breeders, scientists interested in heredity and evolution, and others who are interested in plant and animal improvement to become members. The secretary, Prof. W. M. Mays, St. Anthony Park, Minnesota, to whom all remittances are made, reports daily responses in the way of remittances for membership. Some have expressed the belief that the annual membership at \$1.00 is too low. A number of life-memberships at \$20.00 have been received, among them one from Philip de Vilmorin, head of the great seed house of Paris, France, and another from the Zoological Laboratory, Naples, Italy. A number of annual foreign memberships at \$2.00 have also been received.

Animal breeders especially commend the proposed scheme of a directory of breeders, showing classes of live stock and plants for sale by breeders, and showing specialties of scientists interested in breeding. Physicians and teachers are taking an interest in this association, that they may know more about the general subject of heredity.

There is a wide range of interests represented by those who join this new association. Not only is the number of breeders of different kinds of animals in America increasing, but the field crops and many of the horticultural crops are being taken up by breeders who are improving them by systematic breeding. The work of the experiment stations and the U. S. Department of Agriculture is especially effective in reducing breeding to more of a science.

THE DIFFERENCE.

"Far as I can learn," said the Pruntytown philosopher, with his usual raspishness, "the only difference—excepting, of course, in the size of their bills—between the fashionable city physician, with several mysterious initials after his name, and the plain, every-day village doctor, who is commonly called 'Doc,' and swaps horses on the side, is that the former diagnoses your malady and the latter simply tells you what's the matter—that is, you s'pose they do."—August Woman's Companion.

She—And are you really so much better since you returned from your trip abroad?

He—Yes, indeed! I'm quite another man, I assure you.

She—Well, I'm sure all your friends will be delighted to hear it.



COLLINS PLOW COMPANY,

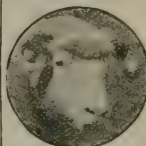
185 Hampshire St., Quincy, Ills.

"ELI" Against the Field.

It leads in power, in speed, in safety, in convenience and ease of operation and makes compactest and shapeliest bales.

HAY BALER WITH A RECORD,

the pride of shippers. Steel or Wood, Horse or Steam Power. Such automatic features as self-feeding, block placing, hay compressing, self-rigging, etc. All styles and sizes. Get free literature.

**EDGEWOOD STOCK FARM DORSETS! DORSETS!**

You men in the early lamb business need Dorset blood. No lamb grows like a grade Dorset. Grade Dorset ewes will lamb in December.

One cross will bring results. Try a Dorset ram. Our fall lambs are beauties. Write us or come to see them.

J. D. and H. B. ARBUCKLE, Maxwellton, Greenbrier, Co., W. Va.

CISMONT DORSETS

CISMONT STOCK FARM offers well developed young Dorsets of the best blood of England and America.

Prices Reasonable.

G. S. LINDENKOHL, Keswick, Albemarle Co., Va.

ORGANIZED 1832.

ASSETS, \$932,050.00.

Virginia Fire and Marine

Insurance Company, of Richmond, Va.

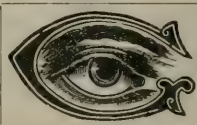
Insures Against Fire and Lightning.

All descriptions of property in country and town, private or public, insured at fair rates, on accommodating terms.

AGENCIES IN EVERY TOWN AND COUNTY.

W. H. PALMER, President.

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**How are Your Eyes?**

We are the largest optical establishment South, and give proper adjustment of SPECTACLES and EYE GLASSES. Complete manufacturing plant on the premises. Mail us the pieces and we will, from them, duplicate your Glasses. Glasses by mail our specialty.

Our PHOTO DEPARTMENT

is also complete with CAMERAS, KODAKS and PHOTO SUPPLIES, developing and printing finely executed.

Our line of OPERA GLASSES, FIELD GLASSES, Incubator and Dairy THERMOMETERS, etc., etc., is also complete. Lowest charges in all cases.

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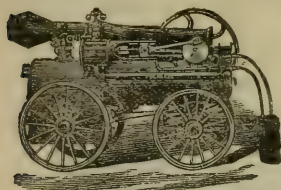
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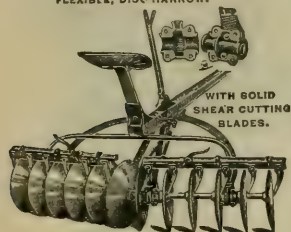
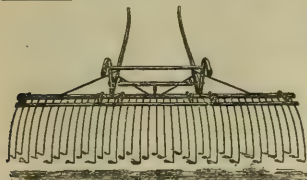
15th & Franklin and 14th & Main Sts., Richmond, Va.

**Agricultural Implements,
Machinery, Vehicles and
Harness.**

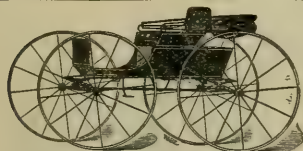


PEERLESS ENGINE.

THE BUFFALO PITTS ALL-STEEL, SPRING-FLEXIBLE, DISC HARROW.

WITH SOLID
SHEAR CUTTING
BLADES.

BEMENT IMPROVED WEEDER.



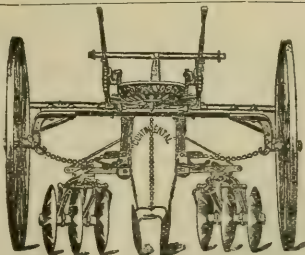
ALL STYLES OF BUGGIES.



SPIKE TOOTH HARROW.



SOUTH BEND PLOW.



CONTINENTAL DISC CULTIVATOR.



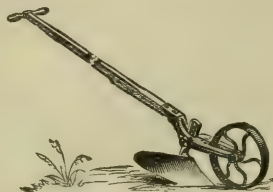
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EXTENSION TOP SURREY.



FISH AND WEBER WAGONS.



FIREFLY GARDEN PLOW.

A full stock always on hand, and prompt shipments guaranteed. South Bend, Dixie and Farmer's Friend Plows and repairs. The Hancock Rotary Disc Plow, warranted to go in the ground where all others fail.

A large and complete stock of open and top buggies, surreys and spring wagons. Fish, Weber and Columbus two-horse Farm Wagons. Champion and Hickory one-horse Wagons. John Deere and Continental Disc Cultivator. Roderick Lean Land Rollers.

Hocking Valley Feed Cutters, Cyclone Shredders, Smalley Feed Cutters, Dain Corn Cutters. Equal to any made. Staver Buckeye Feed Mill and Horse Power Combined.

Whitman All-Steel, full circle Hay Presses. George Ertel Company's full circle Hay Presses. Rapid Fire Horse Power Hay Press, for one horse, a good, cheap press. Will put up from 150 to 200 bales a day. The well known Minnich Hand Baling Presses.

Hocking Valley Wine and Cider Mills. Hard wood rollers. The best mill made.

Hocking Valley Corn Shellers, for hand or power. Smalley Electric Pole and Wood Saws, for steam or horse power. Peerless Engines and Saw Mills always in stock. Several good second-hand Engines and other second-hand machinery for sale. "Pittsburgh Perfect" fencing, electrically welded. Barb Wire, Plain Galvanized Wire, Baling Wire, and Bale Ties. Continental Disc Harrows, Buffalo Pitts and Lean Spike Harrows.

A full line of Planet Jr., Garden Tools.

We will be glad to mail you a copy of our new catalogue.



COMBINED CULTIVATOR, AND HORSE HOE.

THE WATT PLOW CO.,

15th and Franklin and 14th and Main Streets - - RICHMOND, VA

AS TO ADVERTISING.

If you toot your little tooter and then
lay aside your horn,
In ten short days there's not a soul
will know that you were born;
The man who gathers pumpkins is
the man who plows all day,
And the man who keeps a-humping is
the man who makes it pay.
The man who advertises with a short
and sudden jerk
Is the man who blames the editor be-
cause it didn't work;
The man who gets the business has a
long and steady pull,
And keeps his ad a-running from
week to week quite full.

He plans his advertising in a thought-
ful sort of way,
And keeps forever at it until he makes
it pay;
He has faith in all the future, can
withstand a sudden shock,
And, like the man of scripture, plants
his business on a rock.

If he can't write good copy, he em-
ploys a man who can,
And the other fellow in his line is
classed as "also ran."
You can't fool people always—they've
been a long time born,
And most folks know the man is slow
who tooteth not his horn.

A \$75,000.00 PRIZE.

Some public spirited men in St. Louis, to promote interest in the great World's Fair which opens in May, have organized a contest which is open to everyone in the world, as to the number in attendance at the fair.

A fac-simile letter from the treasurer of the Missouri Trust Co., of St. Louis, in the possession of the publisher of this paper:

"Certifies that the World's Fair Contest Company, incorporated, has this day deposited with this company \$75,000.00 in gold for the payment of the awards in its contest on a total paid attendance at the Louisiana Purchase Exposition, 1904, and that such deposit is held in trust by this company, to be paid by it to such successful contestants as the Committee of Awards may direct."

The judges and other officials of the contest are men who are high in financial and business circles, and men who are prominently connected with the fair as officers, and also directors and officials in prominent banking institutions in St. Louis.

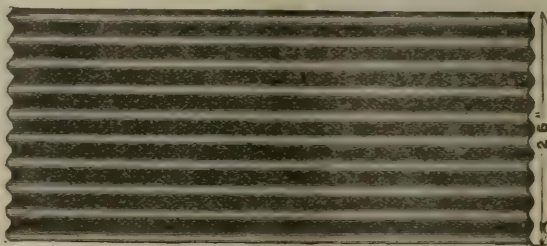
It is quite an interesting contest, and we suggest that any of our readers interested write to the World's Fair Contest Co., for full information, addressing your letters to St. Louis, U. S. A.

"Your husband," said Mrs. Oldcastle, "seems to be so altruistic."

"Yes, I know it. But Josiah always was a great hand to overeat, and I think that must be what gives it to him."

ROOFING OF ALL KINDS.

Painted Corrugated Roofing, Painted V. Crimp Roofing, Roofing Tin in boxes or rolls, Tarred Roofing Felt, Perfected Granite Roofing.



Send us the DIMENSIONS OF YOUR ROOF, stating KIND OF ROOFING wanted, and we will quote you on sufficient quantity to cover it.

You can ADD YEARS to the life of your roof by painting it with our

Magnet Red Roofing Paint.

1 gallon will cover 2½ squares. Can furnish in any size package, 1 gallon up. Only the very HIGHEST GRADE material enters into the manufacture of this paint. Write for prices.

We also carry a complete stock of Conductor Pipe and Gutter, Solders and Metals; Galvanized and Black Sheet Iron, etc.

Southern Railway Supply Company,

1323 East Main Street,

RICHMOND, VIRGINIA

The Chesapeake & Ohio Railway

Extending from Cincinnati and Louisville, and

THROUGH ITS CONNECTIONS....

THE BIG FOUR SYSTEM, from Chicago, St. Louis, Peoria, Indianapolis, Sandusky and Cleveland;

THE OHIO CENTRAL LINES, from Toledo and Columbus;

THE CINCINNATI, HAMILTON & DAYTON, from Detroit, Toledo, Lima and Dayton—

FORMS THE MOST DIRECT ROUTE, And from Five to Twelve Hours the Quickest

To STAUNTON, LYNCHBURG, CHARLOTTESVILLE, RICHMOND, PETER BURG, NORFOLK, And Principal Virginia Points.

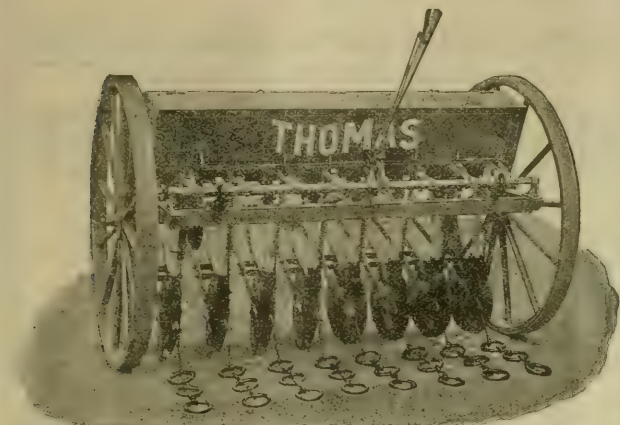
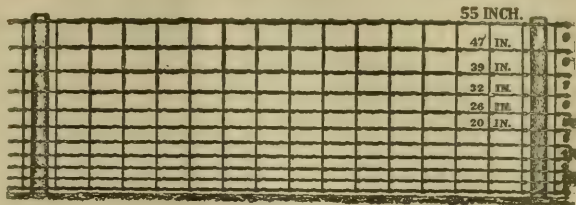
H. W. FULLER, Gen. Pass. Agt. C. & O. Ry., Washington, D. C.

The American Field Fence

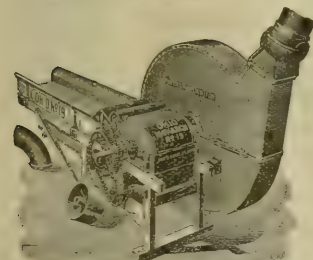
is the most economical fence that can be erected. Its cost

is even less than barb wire or wood and when erected is practically everlasting. Furnished in various heights and styles.

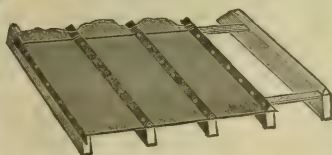
Write for special catalogue and prices.



THE THOMAS DISC GRAIN DRILL will drill perfectly WHEAT, OATS, CORN, PEAS and BEANS as well as grass seed of all kinds. With or without fertilizer attachment.



OHIO FEED CUTTERS for hand or power. A comparison with others will convince you it is the strongest, simplest and best made. The power machines are furnished with blower or carrier if so wanted. Prices very low.



V CRIMP STEEL ROOFING. The most economical roof made. Does not require a carpenter to put it on. Furnished in all lengths from 5 to 10 feet long.



WOOD'S PATENT SWING CHURN. The quickest and cleanest butter maker known. The frame is made of Hollow Steel Pipe, very light and strong, and easily forms a useful table. The churns are furnished of either wood or heavy tin.



THE EMPIRE CREAM SEPARATOR should be on every farm where three or more cows are kept. It will save its cost many times in one year. It is the simplest one ever manufactured and can be cleaned without trouble to any one. Write us for particulars.

SINGLE AND DOUBLE CIDER MILLS. All sizes and capacities at low prices.

BIRDSSELL STEEL SKEIN FARM WAGONS, MITCHELL FARM WAGONS, BUGGIES, CARRIAGES, HARNESS, ROBES, BARB AND PLAIN WIRE, POULTRY NETTING AND LAWN FENCING, CORN SHELLERS, FEED CUTTERS, GRAIN DRILLS, WOOD SAWS, MOWERS, BINDERS, HAY RAKES.

All kinds of Agricultural Implements and Machines.

Catalogue mailed free.

THE IMPLEMENT CO., 1302 and 1304 E. Main St., Richmond, Va.

EXTERMINATING MOTHS.

The most effectual method of rendering a house moth-proof is thorough spring and fall cleaning. Two of the arch-enemies of moths are cleanliness and light. Attics and storage-rooms require light and ventilation. The cedar chest or closet ranks first as a preventive. Moth balls are efficacious, but one prefers the moth almost. Furs, especially, fascinate moths. The preliminary step is a thorough combing with a dressing comb; next, beat well, and air in the sunshine; next, sprinkle with gum camphor, cedar dust or tobacco leaves. Place the furs in paper sacks, turn the edges over, and paste down with a strip of muslin. Printers' ink is obnoxious to moths. Balls of cotton wadding saturated in oil of cedar are effectual in trunks. Remember this, oil stains. Carpets, if infested, must come up, be beaten and cleaned. Wash the floor with benzine, then sprinkle with cayenne pepper. Tack down the carpet, and sponge with a solution of one quart of water to one tablespoonful of turpentine, changing the water frequently. A preventive is to press every inch of the edge of the carpet, first dampening, then pressing with a hot iron. Lay a damp towel on the carpet, over this a paper to retain the steam, then iron. Steam destroys.—August Woman's Home Companion.

A sentry, an Irishman, was on post duty for the first time at night, when the officer of the day approached. He called:

"Who comes there?"

"Officer of the day," was the reply.

"Then what are yez doin' out at night?" asked the sentry.—London Fun.

Hewitt—So we have hugged the same girl.

Jewitt—Yes, I suppose she looks upon us as members of the associated press.

"Br'er Thomas, you spends 'bout half yo' time cussin' out de devil."

"Well, ain't dat right? What you 'spect me ter do?"

"Take a recess, en praise de Lawd some!"

Magistrate: Have I not seen you twice under the influence of liquor?

Prisoner: If you were in that condition, your honor, probably you did see me twice.

Police Captain—So you shot the dog. Was he mad?

Officer Grogan—No, sor; but th' led-dy that owned him was.—Epworth Herald.

"Daddy's in jail fer moonshinin'," explained the Georgia youngster, "but he's got terbacky, religion, an' his ole time fiddle!"

Best for medicinal uses

Your physician will tell you that you should always have some good whiskey in the house. For accidents, fainting spells, exhaustion, and other emergency cases, it relieves and revives. But you must have good whiskey, pure whiskey, for poor whiskey, adulterated whiskey, may do decided harm. HAYNER WHISKEY is just what you need for it goes direct from our own distillery to you, with all its original strength, richness and flavor, carrying a UNITED STATES REGISTERED DISTILLER'S GUARANTEE OF PURITY and AGE and saving the dealers' enormous profits. We have over a quarter of a million satisfied customers, exclusively family trade, who know it is best for medicinal purposes and prefer it for other uses. That's why YOU should try it. Your money back if you are not satisfied.

Direct from our distillery to YOU

Saves Dealers' Profits! Prevents Adulteration!

HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

4 FULL QUARTS \$3.20 EXPRESS PREPAID

We will send you FOUR FULL QUART BOTTLES of HAYNER'S SEVEN-YEAR-OLD RYE for \$3.20, and we will pay the express charges. Try it and if you don't find it all right and as good as you ever used or can buy from anybody else at any price, send it back at our expense and your \$3.20 will be returned to you by next mail. Just think that offer over. How could it be fairer? If you are not perfectly satisfied you are not out a cent. Better let us send you a trial order. If you don't want four quarts yourself, get a friend to join you. Shipment made in a plain sealed case with no marks to show what's inside.

Orders for Ariz., Cal., Col., Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash. or Wyo. must be on the basis of 4 Quarts for \$4.00 by Express Prepaid or 20 Quarts for \$16.00 by Freight Prepaid.

Write our nearest office and do it NOW.

THE HAYNER DISTILLING COMPANY

ATLANTA, GA. DAYTON, OHIO ST. LOUIS, MO. ST. PAUL, MINN.

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DISTILLERY, TROY, O.

ESTABLISHED 1866.



THE SEABOARD

AIR LINE RAILWAY

OFFERS

PROFITABLE

INVESTMENTS

THE MANUFACTURER,

THE STOCK RAISER,

THE DAIRYMAN,

THE FRUIT GROWER,

THE TRUCKER.

WHERE YOUR LABOR IS NOT IN VAIN.

Would a country where work can be carried on the entire year and where large profits can be realized interest you?

The SEABOARD Air Line Railway traverses six Southern States and a region of this character. One two cent stamp will bring handsome illustrated literature descriptive of the section.

J. B. WHITE,
Gen. Industrial Agt., Portsmouth, Va.

EDW. W. COST,
Traffic Mgr.

CHARLES B. RYAN,
Gen. Pass. Agt., Portsmouth, Va.



.....LAIDLAW'S.....

Concentrated Tobacco Powder, Sheep Dip and Cattle Wash.

A SURE CURE FOR THE EXTERMINATION OF

Scab and Tick in Sheep.

Lice on Horses and Cattle.

Lice on Hogs.

Mange on Dogs.

Kills all vermin. Allays all irritation. Promotes growth of wool. Makes animal feel well and take on flesh.
ABSOLUTELY NON-POISONOUS.

PRICES: 5-lb. bag, 75c.; 10-lb. bag, \$1.25; 25-lb. bag, \$2.60; 50-lb. bag, \$5.00.

One 50-lb. bag makes 500 gallons Dip for Scab, and 1000 gallons for Tick, etc.

SOLE MANUFACTURERS,

LAIDLAW, MACKILL & CO., Limited, Richmond, Va., U. S. A.

To be Had at all Leading Drug Stores.

GROCERIES FOR FAMILY USE

A few articles quoted below will convince you that for cash you can live cheaply by dealing with us. We have a complete line of groceries, feed and liquors. Should you need anything not quoted here, write for prices. These prices are subject to changes in the market. We charge 10c. per gallon extra for jugs. Our goods guaranteed to be first-class. Goods delivered free of drayage to any depot. All prices f. o. b. here.

Granulated Sugar, per lb.....	5c.	Bran, per ton	24.00
Arbuckle's Coffee, per lb.....	.11c.	Ship Stuff, per ton.....	25.50
Best Meal, per peck, 18c.; or, per bushel.....	.70c.	Old Crown Rye, 5 years old, per gallon.....	3.00
Pride of Richmond Flour, per sack, 35c.; or, per bbl.....	\$5.40	Old Keystone Rye, 4 years old, per gallon.....	2.50
Daisy Flour, per sack, 33c.; per bbl.....	5.25	Old Excelsior Rye, 3 years old, per gallon.....	2.00
Good Green Coffee, per lb.....	9c.	Old Capitol Rye, 2 years old, per gallon.....	1.50
Best Salt Pork, per lb.....	.10c.	Pure N. C. Corn Whiskey, 2 years old, per gallon.....	2.00
Good Salt Pork, per lb.....	.7c. & 9c.	Pure N. C. Corn Whiskey, 5 years old, per gallon.....	2.50
Best Butcher's Lard, per lb.....	.10c.	Duffy's Malt Whiskey, per bottle.....	80c.
Good Lard, 3 lbs. for.....	.25c.	O'Grady's Malt Whiskey, per bottle.....	75c.
Green, Black and Mixed Tea, per lb.....	35c., 40c. & 50c.	Apple Brandy, 3 years old, per gallon.....	2.50
Best Cheese, per lb.....	.12c.	Virginia Apple Brandy, 5 years old, per gallon.....	3.00
Best Cut Herrings, 3 dozen for.....	.25c.	Geneva Gin, 3 years old, per gallon.....	2.00
Best Roe Herrings, per dozen.....	.18c.	London Dock Gin, 5 years old, per gallon.....	2.50
Heavy Bright Syrup, per gallon.....	.35c.	Wilson Whiskey, per bottle.....	1.00
Best Genuine N. O. Molasses, per gallon.....	.60c.	Buchu Gin, for kidneys, per bottle.....	1.00
Good Dark Molasses, per gallon.....	.25c. & .35c.	Catawba Wine, per gallon.....	50c.
Soaps, 8, 7, 6, 10 and 11 bars for.....	.25c.	Blackberry Wine, per gallon.....	50c.
Large Cans Tomatoes, per can.....	7c.	California Sherry Wine, per gallon.....	1.00
Large Cans Table Peaches, per can.....	.12c.	(Sacks for corn and oats, 5c. extra.)	
3 Plugs Grape, Peach, Apple, Plum, Reynolds' Sun Cured Tobacco for.....	.25c.	Half bbls. Roe Herrings.....	2.75
Best Lemons, per dozen.....	.12c.	Coarse Meal, per ton.....	25.00
Good Corn, per bushel.....	.65c.	Cut Herrings in one-half bbls.....	2.00
Good Oats, per bushel.....	.48c.	Chop Food, per ton.....	25.00
Best Timothy Hay, per ton.....	17.00	California Hame, per lb.....	.10c.
No. 1 Mixed Hay, per ton.....	16.00	Dunlop Flour, per bbl.....	5.60
No. 1 Clover, per ton.....	16.00	Obelisk Flour, per bbl.....	5.50

Remittance must accompany all orders. Send P. O. or Exp. Order, Rtg. Letters, for what you want.

J. S. MOORE'S SONS, Inc.,

No. 1724 East Main Street,
RICHMOND, VA.
Phone 507.

A CANNY SCOTCHMAN.

There was a certain Scottish minister in a West Highland parish who has never yet been known to permit a stranger to occupy his pulpit. Lately, however, an Edinburgh divinity student was spending a few days in the parish, and on Saturday he called at the manse and asked the minister to be allowed to preach the following day. "My dear young man," said the minister, laying a hand gently on the young man's shoulder, "gin I lat ye preach the morn, and ye gie a better sermon than me, my fowk wad never again be satisfied wi' my preaching, and gin ye're nae a better preacher than me, ye're no' worth listening tae!"

Hawkins—My wife never gossips.
Robbins—Neither does mine. By the way, what does your wife call it?

THE NEW YORK FARMERS.—We are in receipt of the report of the 1903-1904 meetings of this celebrated Farmers' Club, the membership of which consists of millionaires sufficient to buy up all the farms and farmers in Virginia. They always secure some notable speakers for their meetings, and thus make the proceedings both interesting and useful. Amongst the speakers at the last meeting we notice the Hon. Henry Fairfax, of Virginia, who discussed the question of the influence of the Hackney upon the heavy harness horse of to-day—a subject upon which he was very competent to offer an opinion as one of the oldest Hackney breeders in the country, and one of the most successful.

Newrich—A man can get along without ancestors.

Mack—True. But his children can't.

CATALOGUES AND PREMIUM LISTS.

Prize list and Rules and Regulations for the government of and awarding of prizes in the Department of Live Stock at the Universal Exposition, St. Louis. The total amount of prize money offered is \$438,702.25, a sum never before exceeded at any Exposition or Fair. For copy of list and further information, apply to Col. Chas. F. Mills, Chief of Department of Live Stock, World's Fair, St. Louis, Mo.

"Name the world's greatest composer," said the musical instructor.
"Chloroform," promptly replied the young man who had studied medicine.

"Mr. Smith had a hard time to get his daughters off his hands."

"Yes, and I hear he has to keep their husbands on their feet."

An Atchison husband hovered at death's door so long his wife remarked that she supposed he was having his usual trouble finding the keyhole.

A PHILADELPHIA FEAR.

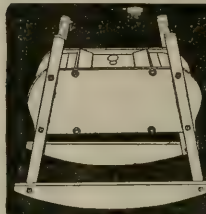
"Your husband has water on the brain," announced the doctor.

"Dear me!" she said, "I hope it has been boiled."—May Lippincott's Magazine.

"How fast can you go in that automobile?"

"Oh, three times as fast as the law allows."

Junior Partner—Young Jones has overstayed his vacation five days. Shall we fire him? "No; promote him, that shows he ain't afraid of hard work."

The **ROCKER CHURN**

Get the butter from the cream down to the one thousandth part. Made of tasteless wood and the churning process is entirely the result of its own motion—no machinery inside or out to get out of order or require oiling.

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**THE GROWLS OF A GRIZZLED
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Faint heart in time may save a
breach of promise suit.

It is unsafe to make love out of an
ink bottle—or any other way.

He thinks he is marrying his ideal,
but she sometimes turns out to be his
ordeal.

Some women's love is about as full
of warmth and truth as the epitaph
on a lawyer's tombstone.

The only appreciable difference be-
tween a woman and a girl is that the
woman is a little more so.—August
Woman's Home Companion.

Foosle—Do you think it wrong to
play golf on Sunday?

Niblick—I think it wrong to play
such a game as you do on any day of
the week.

"Poor Giblets!" "What now?" "He
has been off on a vacation for a month
and the doctor ordered him to go back
to work for his health."

Nor clothes nor riches makes the man,

'Tis more than this that makes him;
But whatso'er it be, we know

'Tis woman fair that breaks him.

Mr. A. L. French, of the Sunny
Home Herd of Angus Cattle, Fitz-

gerald, N. C., calls attention in a cir-
cular to the breeding of his herd,
which is second to none in this coun-
try.

Young Cubber—By George! I see
that Brown, the millionaire, has been
stabbed.

Old Grovehy—How sad! How very
sad! It has put the market down two
points.

She—Is it really true that the blind
can determine color by the sense of
touch?

He—Sure; I once knew a blind man
who was able to tell a red-hot stove
by merely putting his finger on it.

Mrs. Newbride—See here! when I
gave you that pie you promised to saw
some wood.

Hungry Hank—Well, you oughtn't
to've gave the pie first, lady. I just
ruined the saw try'n to cut de pie.

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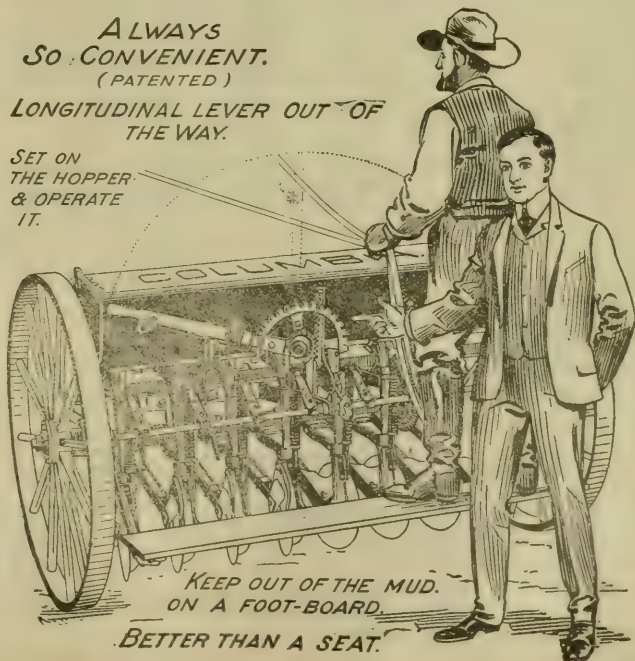
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tors

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WHAT AN OLD READER OF THE PLANTER SAYS OF IT.

Editor Southern Planter:

Who is "running" the PLANTER? It seems as if it gets better and better. I thought I knew it all, but it looks as if you are springing something on me every issue that I did not know. I do not see how any farmer can read one number and not subscribe, if he is not a subscriber already, when he can get the paper for 50c. or three for one dollar. This paper has saved me many times its cost. I often see articles worth 50c. to me. Then it has saved me in not making experiments that sometimes I make, and generally get left. Your article on tile draining is all right, and it pays from the start. I have done it, but I would not advise any one to borrow money to do it, for he will find a mortgage is the hardest thing he ever tried to raise. Such is my experience. Now, I am not kicking on your article on tile draining, and as you are a hard horse to ride, I guess I'll get out of the saddle.

L. H. CARLTON.

GENERAL SERMAN'S SENSE.

At the unvening ceremony of the famous Bartholdi statue the clergyman who offered the opening prayer was inclined to spin out his petition. General Sherman was sitting beside him, and at length, quietly putting out a

hand, he pulled the reverend gentleman by the coat-tails gently back into his seat. When asked about the incident the General coolly replied—

"I thought he'd told God about all He wanted to know for one time, and others were waiting their turn at the public."—August Lippincott's.

UNNATURAL HISTORY.

During the opening days of Kindergarten the family life was being discussed with the tots in the circle as directly appealing to the little ones fresh from home.

"Now, children, we have talked about our own homes and little bird and squirrel families that have their homes in trees and on top of the ground; can you tell me any animals that have their homes in the ground?"

Up jumped curly-headed Barnett, enthusiastically, crying:

"Yes'm, Satan!"—Lippincott's.

THE DOCTOR ENLIGHTENED.

Representative Livingston, of Georgia, repeats a story that was told him by a physician on duty at a hospital in Atlanta.

One day there entered the hospital a young colored woman badly bitten in the neck just back of the ear. The doctor who dressed the wound said to the patient:

"It perplexes me to determine just

what sort of an animal bit you. This wound is too small to have been made by a horse and too large to have been inflicted by a dog or a cat."

The colored woman grinned. "Sho', Doctor, it wa'n't any animul dat bit me, it war a lady, sah!"—Edwin Tarrisse, in August Lippincott's.

A GOOD SHOT.

The foreman of the Minnie Healy mine, at Butte, Mon., noticed an apparently suspicious man standing day after day near the shaft-house silently gazing eastward where the Great Northern Railroad tunnel pierces the main divide of the Rocky Mountains.

Approaching him one day, he said: "My man, what are you doing here?" "Faith, Jack Kane," answered the man, "I hove been here ivery day for the last thirty days, watchin' them engines and cars goin' along that trail towards that hole in the mountain, and, be gobs, not wan of them hove missed the hole yet."—W. I. Lippincott, in August Lippincott's.

AN OBJECT LESSON.

A teacher in an East Side school, in trying to explain the meaning of the word slowly, illustrated it by walking across the floor. When he asked the class to tell him how he walked, a boy at the foot of the class shouted, "Bow-legged, sir."—Lippincott's.

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Record, 2:27.

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The World (thrice-a-week), N. Y.	1 00	1 25

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Nashville American	50	75
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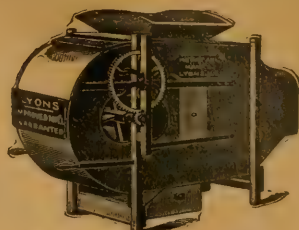
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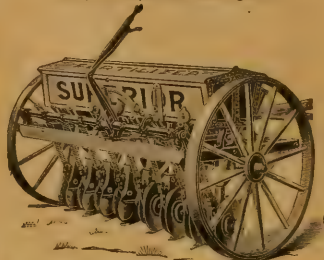


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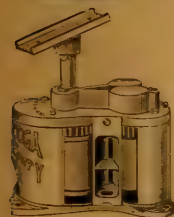
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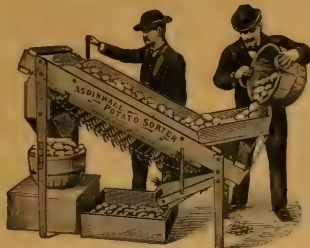
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J. F. JACKSON, Editor and General Manager.

Vol. 65

SEPTEMBER, 1904.

No. 9

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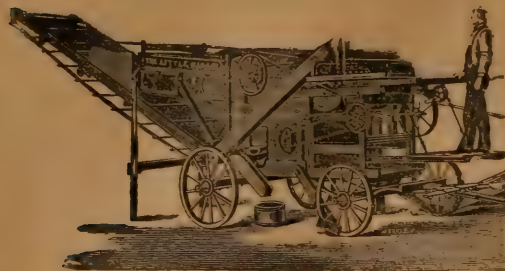
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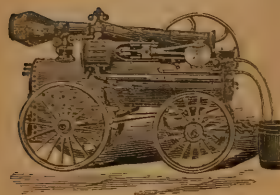


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The Southern Planter.

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TRUCKING, LIVE STOCK AND THE FIRESIDE.

Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, September, 1904.

No. 9.

Farm Management.

WORK FOR THE MONTH.

Since writing our opening article for the August issue the general and continuous rain which we then said to be necessary for us to secure a good average crop has fortunately fallen, indeed we have had practically since that time a month of broken weather all through the South. Rain has fallen almost daily, but, as a rule, not in such heavy showers as to do injury, though in some sections there have been washing rains. The result is that the land is now well supplied with moisture, and this condition, coupled with the warmth of the soil, and a daily temperature more nearly the average for the season than has been the case for so long, has caused crops to make a splendid growth, and the prospect is for full average yields of most crops.

The threshing of the winter wheat crop throughout the country has been completed, and the result confirms our forecast of a very deficient yield. The average yield per acre for the whole country is estimated by the Department of Agriculture at slightly over 12 bushels to the acre. For Virginia the average is given at slightly over 10 bushels, for Maryland at slightly over 13 bushels, for North Carolina at slightly over 8 bushels, for South Carolina at 8 bushels, for Tennessee at a little over 11 bushels, and for West Virginia at a little over 10 bushels. Whilst these are the average yields, we have received reports of some excellent yields in some parts of this State. In this issue will be found one of 40 bushels to the acre, and Mr. Bellwood, of Drewry's Bluff, Va., tells

us that his crop ran to over 40 bushels to the acre, and this over a large crop. These large yields go to show that the season was not altogether to blame for the small average crop. The man had much to do with it as is almost always the case. The spring wheat crop is not yet fully harvested, but it is going to be a very disappointing one. Rust has played great havoc with it, and the crop will in all probability be the smallest raised for a long time. Taken together, the whole wheat crop promises to be as we forecasted, in the PLANTER two months ago, 100,000,000 bushels below that of last year. This means that we have raised but little more wheat this year than will be required to feed the people of the country and for seed. A realization of this fact has had its influence on the market, and wheat is now selling for \$1.10 per bushel in Chicago, as against 90c. two months ago. We expect to see it sell for a still higher price, as the wheat crop of the whole world is a deficient one.

The oat crop gives promise of being a fine average crop if weather conditions are favorable for harvesting the same. The condition is above the ten years' average.

Corn crop prospects in the South were never better, and as the area planted is above the average, we look to see a large crop cribbed. Throughout the country the prospect is for a good crop, but in our opinion not for an excessively large one, possibly not larger than that cribbed last year. We expect to see the

price of this staple remain firm, and possibly advance somewhat.

Tobacco has made a good growth, but there is considerable diversity of opinion as to what the quality of the crop will be. If the rains do not quickly cease many growers think that the quality will be coarse and the tobacco of an undesirable type, and we are afraid this will be so.

The cotton crop is in a critical condition. The continued rains have forced excessive growth of weed and hindered the setting and maturity of the bolls. A continuance of the weather we are having is going to materially reduce the yield of the crop, whilst if it takes up too suddenly and a dry period follows almost equal damage will be done. We are not looking for such an excessive crop to be picked as was promised early in the season. Every pound of the new crop will, in our opinion, be wanted at a good price.

Peanuts are not likely to a heavy crop. They made a bad start in the cold, dry weather, and there has been too much rain for them recently. The price keeps firm, and we look to see this continue, and possibly advance some.

Sweet potatoes are promising a good yield, but a cessation of the almost daily rains we are having would be of benefit to the crop.

The various forage crops have made a splendid growth since the rains began, and with fine weather to cure the same there will be an abundance of winter keep.

Pastures never looked better and live stock are in fine condition generally. There is every prospect now that there will be an abundance of feed to the end of the season, as it will take a long drouth in the fall to check the growth.

A review of the foregoing will, we think, lead to the conclusion that Southern farmers and planters have much to be thankful for. There is every reason to anticipate that they will be able to secure a fair return for their labor and capital.

The work of harvesting and curing the forage crops will require attention during this month. Do not be in too great haste to cut them. They are now

very full of sap, and will be difficult to cure unless we have very fine weather. Let the growth mature somewhat before cutting. The feed value of the crop will be enhanced and the curing will be much less difficult. Cow peas especially will need to be let alone for some time, or the curing will be especially difficult. In our last issue will be found two articles dealing with the curing of this crop, to which we invite attention. If the weather continues showery do not cut too great an area down at once, but cut a small breadth and give this all the attention it needs to cure it well and as quickly as possible, and then cut again. Sorghum is less difficult to handle than peas, as it does not spoil easily. Let it stand until the grain is well past the dough stage, and then cut and set in shocks to cure. If it can be allowed to lie on the ground broadcast for a few days the curing will be much easier, and it will not spoil by being rained on. This is also the case with soy beans, when cut for a hay crop. In our last issue will be found advice as to the proper time to cut all these forage crops, and also as to the filling of the silo.

The work of sowing grass, alfalfa and clover crops should have immediate attention, as this is the last month in the year when this work can be done with anything like a certainty of success. In our last issue we wrote very fully on this subject, and to what we then said we invite attention. From the large number of enquiries we have had we expect to see quite a considerable area of alfalfa seeded in the South. We are convinced from the reports we have had from many who have experimented with the crop that there is no reason whatever why Southern farmers should not succeed as well with this crop as Western ones have done. It is of such inestimable value as a feed, making so large a weight of hay to the acre in one year, and is of such a permanent character, that it is worth every effort necessary to make its growth successful. Talking a day or two ago with an enterprising and wide-awake farmer, we were glad to find that he had made a success with the crop upon land badly infested with weeds by seeding the same in drills two feet apart. He prepared the land finely, made it rich with manure, and then kept all weeds down the first year by cultivating it frequently. The second year it took full possession of the land, and since that time he has cut three, and sometimes four, crops off each year, and it is still making fine growth, and in complete possession of the land.

Keep on seeding crimson clover and hairy vetch all through the month as land becomes available. Sow with these seeds some wheat, oats and rye, say from half to three-quarters of a bushel to the acre, and a good cover will be provided for the land all winter, which will add to its fertility, and at the same time make good grazing, an early green forage, and good hay. A good crop of crimson clover will add from \$20 to \$30 worth of nitrogen to the acre, and a crop of hairy vetch from \$30 to \$35 worth of the same absolutely essential fertilizer. All this is gathered from the air and costs nothing but the price of 10 or 15 pounds of clover seed or a bushel of hairy vetch, and the labor of seeding these. In addition to this, these crops add humus making matter to the soil, and this humus makes available the phosphoric acid and potash in the soil, and keeps the soil from running together and baking. If the land is poor, give these crops 2 or 300 pounds of acid phosphate to the acre to induce a vigorous growth. The more luxuriant the growth the greater the quantity of nitrogen which will be stored in the soil. If no use or profit is made of these crops except their manurial value this is amply sufficient to justify the outlay of money and labor involved in their growth. No better preparation of the land for a corn crop can be made than the seeding of these crops.

The preparation of the land for and the seeding of winter oats should have immediate attention. Long experience in the growing of this crop has demonstrated that to be a profitable and successful crop, Virginia gray winter oats should be sown early in September. As this variety is the most profitable oat crop that can be grown in the South; indeed, on an average of years is the only profitable oat that can be grown in a hot climate like ours, the oat being essentially a cold climate crop, every effort should be made to get it in at the best time for it to succeed. With the oat crop as with nearly every other crop good preparation of the seed bed before seeding has more to do with the yield than the amount of fertilizer that may be applied. This preparation should have begun in August. The rains we have had have put the land into good condition for working, and every effort should be made to get the seed in by the middle or third week of this month. The small average yield of the winter oat crop in the South is almost wholly due to the fact that the crop is usually seeded too late on a poorly prepared bed, and too often on the poorest land to be cropped. When seeded after September the crop does not make suffi-

cient growth to protect the roots from being frozen with even a light frost on the setting in of winter, and much of the stand is winter killed. Another reason for this winter killing is that the seed is not covered sufficiently and proper precaution taken to drain off surface water quickly by the provision of water furrows. There is no reason why with proper seeding at the right time the average crop of the South should not be in excess of 30 bushels to the acre. We know men who make from 50 to 60 bushels to the acre regularly. These men sow in September, prepare the land well, put the crop on good land, and give it 3 or 400 pounds of acid phosphate per acre. Another great reason for light yields is that enough seed is not sowed. Instead of sowing only a bushel or a bushel and a half to the acre, *twice* this quantity of seed should be sowed. Sowing 4 bushels of seed to the acre has given the highest yield in a number of experiments, and in several of these tests the covering of the seed with cultivators was found to give better results than merely harrowing the seed in. The application of phosphate in the form of acid phosphate or Thomas slag gave an increase of 100 per cent. in the crop.

Winter barley is being sown now in the Valley and Northern sections of this State, and promises to be an acquisition to our staple crops. It gives good winter and spring grazing when sown early enough in the fall, and makes a good yield of grain. It should be seeded in September on well prepared land, which should be in a good state of fertility, as the crop calls for more available plant food than oats if to be successful. Acid phosphate applied at the rate of 300 or 400 pounds to the acre usually gives good returns on the outlay. Sow at the rate of 3 or 4 bushels to the acre.

In this issue will be found an article on the preparation for and seeding of the wheat crop, to which we invite attention.

Rape and turnips may be sown yet with a fair chance of making a crop if the fall be a normal one, though it is getting late for these crops. If the winter be a mild one the rape, if not grazed too closely, will stand over and make good early grazing in the spring, most valuable for ewes and lambs. Sow 3 or 4 pounds of seed to the acre broadcast and harrow lightly.

Do not waste time pulling fodder. Whilst blade

fodder is excellent feed when well cured, the cost of pulling is too great with the present high price of labor for it to be saved profitably. It is also a crop easily spoiled in the curing, and if pulled at the best time for making good fodder materially injures the yield of corn from the crop. In numerous experiments made in the South, it has been demonstrated that the loss of yield in the corn made the fodder very costly feed. The blades can be saved just as well by cutting the corn at the root and setting up in shocks to cure, in this way saving both stalk and blades and not reducing the yield of corn. Cut when the corn is glazed and dented, and it will not shrink in the curing, and the stalks with the blades on them make excellent rough feed.

With the large amount of moisture in the land, and the warmth of the weather, weeds will grow fast on all stubble fields and newly fallowed land. See that these weeds are cut off with the mower before they bloom and make seed. They rob the land of fertility and moisture, for which they make no return except in providing work for another year in killing them. Leave the weeds as cut as a mulch, if not so heavy as to smother out the clover or grass where the stubble has been seeded with these crops. If a very heavy cutting of weeds is made they may be cured and saved for feed. Whilst not very valuable for this purpose, yet sheep and young stock will pick them over and get some good from them. On newly plowed land the weeds as they germinate should be killed by harrowing the land when the sun is shining and thus a fresh lot of seeds will be brought near enough to the top to germinate and be killed in like manner. In this way a piece of land may soon be cleared of weeds.

Keep the plows at work breaking land intended to be cropped next year. Plow deep and bring up some of the soil which has not been exhausted of its plant food. There is no risk in doing this at this time of the year, as the sun and air will have plenty of time to act upon this new soil and make it fit for the support of plants before the time for seeding comes round. There is plant food in abundance in nearly all subsoils for the profitable growth of large crops for years to come. It only requires to be made available by the action of the sun and atmosphere and some lime. Subsoiling should also be done where the subsoil is a good one, or where there is a hard pan underlying the surface soil. This will add to the feeding ground of the crop and serve to catch and

retain the rain as it falls for the service of the crop. With a deeply broken subsoil crops will not suffer even in a dry season for a long time. When it is realized as it ought to be that crops can only utilize the food in the soil when in a state of solution in water the importance of saving all the moisture possible becomes apparent. No crop takes its food in a solid condition. Therefore, however abundant this food may be in the soil it cannot help to grow the crop until dissolved in water. Make the soil and subsoil loose and permeable by the rain and then these will hold it like a sponge holds water, and the roots of the plants will suck it out as they call for it.

Clean out all barns, sheds, outbuildings and pens and put the manure on to thin places on the farm. Brush down all the dust, cobwebs and trash and use the lime wash brush freely in all places where live stock is to be housed. Lime is a great disinfectant, sweetener and destroyer of germs, and its use will largely help to keep stock in a healthy condition through the winter. Where buildings are in need of repairs, have these attended to at once. It is worse than useless to take stock up out of the pastures and put them into buildings where they cannot be kept dry and warm. They are better out of doors altogether than housed in wet, drafty buildings. Have the outside of the buildings either lime washed or painted. In our July issue, on page 466, we published a receipt for making whitewash for outside use which will be found almost as durable as paint. If we could but persuade Southern farmers to spend a little money in paint every year and apply the same to their houses and barns they would enhance their value by many times the cost of the paint in the eyes of prospective purchasers, and would make them much more homelike and attractive to those living in or using them.

WHEAT SEEDING.

The preparation of the land for the wheat crop is work that will call for constant attention this month. Indeed, to secure the best results this work should, as we stated in our last issue, have commenced in August. During that month the land was in most sections of the South in fine condition for plowing and working, and if advantage was taken of this as it ought to have been, the land will now be getting into good order for producing good results next year. The importance of a perfect preparation of the soil for the wheat crop is not half appreciated as it ought

to be. Men who will carefully plow and work land for the corn crop and who will then cultivate that crop four or five times during its period of growth will seed wheat on land that has been only once plowed and once harrowed and will then complain if the crop is not a good one. They entirely overlook the fact that the whole cultivation of the wheat crop must be done before the seed is sown, except possibly a light harrowing in the spring, and this too often is neglected. The perfect preparation of the land before seeding is much more important in the final results than any fertilizer which may be applied to the crop, for unless the land is finely prepared very much of the fertilizer will never help the crop at all, but be washed out of the soil by the winter and spring rains. To be of help to the crop the fertilizer must be closely assimilated with the soil, so that it shall permeate every part of it, and this can only be possible if the soil be finely broken and thoroughly mixed. The value of cultivation in securing a heavy yield of wheat is illustrated by the success which followed the old-fashioned method of seeding on a summer fallow. We have seen crops of 40 bushels to the acre produced after a summer fallow without the help of any fertilizer, on land which, if not plowed until the fall, would not produce 25 bushels to the acre, even with fertilizer. In the former case the land was first plowed in the spring, then harrowed, rolled and re-harrowed and allowed to stand for ten days or a fortnight. It was then reharrowed, rolled and harrowed again. After standing another ten days or a fortnight the harrowing and rolling was again repeated, and later it would be cross ploughed and harrowed and rolled repeatedly at intervals until October. When seeded the subsurface would be compact, but open enough to be permeated by the roots and full of moisture, and the surface soil as fine as a garden bed and without a weed seed left to germinate. Wheat sowed on such a preparation as this grew off at once and rarely suffered from winter killing. In the spring it would tiller out and cover the land, and unless the season was a most unpropitious one, would make a full crop. Whilst modern methods of rotation have largely supplanted the old summer fallow as a preparation for wheat, there is much to be learned as to the requirements of the crop from the old system. Early plowing of the land and frequent harrowing and rolling are essential to success. The subsoil must be compact, yet permeable by the roots, whilst the surface soil, say 3 or 4 inches deep, must be fine and loose. Experiments made in different sections of the

country all unite in demonstrating that frequent cultivation of the land before seeding is conducive to increased yield, and that harrowing the crop in spring after it has commenced to grow is highly beneficial. Wheat calls for a liberal supply of all the three leading elements of plant food, nitrogen, phosphoric acid and potash. A crop of 30 bushels to the acre, with the straw taken from the soil 45 pounds of nitrogen, 22 1-2 pounds of phosphoric acid, 28 pounds of potash, and 10 1-2 pounds of lime. This quantity of food at least must be available during the growth of the crop, hence the land must be naturally fertile or be artificially supplied with the food in the shape of fertilizer of one kind or another. The lime and potash can be best supplied by a dressing of 25 to 50 bushels of lime to the acre applied as soon as the land is plowed, and gradually worked into the soil during preparation for seeding. The lime will make the potash of the soil available. Experiments have proved that whilst wheat calls for this quantity of plant food, it does not call for it to any considerable extent in the early stages of its growth. Wheat assimilates its food mainly at the time of shooting the ears and filling out the grain. For this reason a slowly available phosphate like bone meal and slowly available nitrogen like that derived from the decay of a clover or cow pea crop usually gives better results than more quickly available forms of these fertilizers. Probably the best way to supply the phosphoric acid is to use half bone meal and half acid phosphate, thus continuing the supply practically over the whole period of growth. The bone meal will give also a sufficient supply of nitrogen to start the growth of the plants in the fall. The nitrogen needed by the crop is most cheaply supplied by planting on a clover or cow pea fallow. Nitrogen from this source becomes available in the summer at the time when the crop calls for it most strongly. Experiments made in various States have demonstrated that a cow pea or clover fallow can increase the yield of a wheat crop 50 per cent. over that grown upon land which has not grown these crops. These crops, however, require to be used with discretion in their management or they may actually cause a decrease in the yield. Especially is this the case with the cow pea crop. Its immense production of vines may sour the land if turned down in the late summer or early fall unless lime is also applied, and unless the crop is turned down very early, say at least six weeks or two months before the wheat is sown the land will be rendered too light and puffy for the best results. This may also happen with clover if the growth is heavy. Where

wheat is to follow these crops they should be grazed down or be cut for hay before being plowed down and lime applied. We have had very frequent complaint of failure to make a good wheat crop on a cow pea fallow, and we believe that the main cause for this was the puffiness of the land. This, however, does not always follow, as in this issue will be found a report of a crop of 40 bushels to the acre grown on a cow pea fallow, but we do not advise taking the risk. As a general principle, no better preparation for a wheat crop can be adopted than the growing of cow peas or clover or any of the legumes. By the adoption of this system alone Mr. Bellwood, of Drewry's Bluff, has brought up land that would not grow wheat at all ten years ago, so that it now produces from 30 to 40 bushels to the acre without the application of fertilizer. Where wheat is grown on land lacking in humus, and where neither cow peas nor clover have been turned down, it is well only to apply part of the nitrogen required at the seeding of the crop (say only such part as will be supplied in a dressing of bone meal) and then in the spring after the crop has started to grow freely apply a dressing of 100 pounds of nitrate of soda per acre. The most important thing in fertilizing a wheat crop is to supply an abundance of phosphoric acid. If the land is lacking in this element, then at least 300 pounds of acid phosphate, or, better still, half acid phosphate and half bone meal should be applied per acre and be well worked into the soil.

Whilst it is important to get growth well started before winter sets in, yet it is equally important not to sow so soon as to incur risk of damage from the fly. Wheat sown before frost has been felt is almost certain to be injured by the fly, especially in sections where the fly has been troublesome in the past. The last week in September and first half of October is about the best time to seed wheat in Virginia, and a little later further South. Where fly has infested the crop recently a trap crop of wheat should be seeded at once before the main crop is sown. Plow a strip of land on one side of the intended wheat field, say a couple of yards wide and fifty yards long and sow it with wheat and harrow in. If the fly is about this will be quickly infested with it laying its eggs. Before seeding the main crop plow this strip down and roll it, and thus destroy both flies and eggs. If every farmer would adopt this plan the Hessian fly would soon be unknown. As to the variety to be seeded. This should be largely determined by local selection. A variety which has proved itself adapted to a section is much more likely to succeed than one

introduced from a distance. Seed such a variety for the main crop. Let new varieties be tested only experimentally until their fitness has been proved. Amongst old standard varieties Fultz and Fulcaster still retain their reliable character. Amongst newer varieties, Nigger, Currell's Prolific, Reliable, Poole, and Harvest King are well spoken of. There is practically no difference between the yields of smooth and bearded varieties.

Seed liberally. On land in good fertility a bushel and a half of seed per acre has almost invariably given better returns than a bushel. At the Ohio Experiment Station this year in 8' out of 18 tests 10 pecks of seed gave a larger yield than a less amount of seed, and in only one of the eighteen did six pecks give the largest yield. On thin land two bushels of seed at least should be sowed.

TESTS OF VARIETIES OF WHEAT.

At the Pennsylvania Experiment Station variety tests of wheat have been conducted for many years. In tests made of five varieties—Reliable, Fulcaster, Dietz Longberry Red, Ontario Wonder and Fultz—for fourteen years, Fulcaster gave the best yield, nearly 31 bushels per acre. Fultz made nearly 28 bushels per acre, and Reliable 30 3-4 bushels.

PENNSYLVANIA POTATO TALK.

Editor Southern Planter:

The potato (in the South called the Irish potato, *Solanum tuberosum*) at the discovery of America by Columbus was found growing wild on the mountains of South America, and was also cultivated for food by the natives of all the temperate parts of the continent from Chile to Granada. The Spaniards first met with it in the neighborhood of Quito, where it was under cultivation by the natives.

About 1553 Hieronymus Cardan, a monk, is believed to have been the first to introduce it from Peru into Spain, from whence it passed to Italy and Belgium. In 1563 John Hawkins introduced potatoes into England from Santa Fe. About 1586 potatoes were taken from North Carolina and Virginia to Ireland and cultivated on the estate of Sir Walter Raleigh, near the city of Cork.

A meal consisting entirely of potatoes is not a well-balanced ration, being nearly devoid of nitrogen and fat. Butter improves the ration, and drinking milk, while eating (as is generally practiced in Ireland), makes it still better. It is probable there is no crop

raised in this country that is more talked about among farmers, or oftener discussed in the agricultural press, than potatoes. They are a valuable crop raised on every man's farm, in every part of the country, and constitute a palatable and inexpensive food to be found on every man's table at nearly every meal.

It may not be the case elsewhere, but in this part of northern Pennsylvania the best land for potatoes is on the hills back from the river, where more bushels are raised per acre, and generally of better quality, than on the river flats. Ground can be too rich for raising potatoes. I once plowed part of an old barn-yard which turned up rather lumpy, but was got into good, mellow condition by repeated harrowing. It was planted with good seed at the proper season, and cultivated as long as the tops would allow it. There was an immense growth of tops, which fell down and covered the ground. The tops were not so very large in diameter, but of enormous length. I congratulated myself that there would be an immense yield of potatoes, but to my great astonishment when dug they proved to be good for nothing. They were all small, and but few in a hill. The strength of the soil and the energy of the plants, seemed combined to make only vines. Do you say there was too much nitrogen in the soil? The plants need not have taken any more than they wanted to make a reasonable amount of vines, and could have found an abundance of materials for the formation of tubers. In other places, it may not be the case, but here I have always had the best success in raising potatoes when planted as early in the spring as the ground is dry enough to work, say the latter part of April or the first of May. Planted this early on well prepared soil and cultivated as long as possible without injury to the tops, a fair crop of potatoes is reasonably sure. Late planted, when the rains come at the right time to save them from drouth, would outyield the early planted; but the rains seldom come at that all-important period of their growth, and the consequence is a light yield. Moreover, the late planted is more liable to be attacked by the blight. Last year a terrific blight struck potatoes in this region, and the tops of late potatoes died as suddenly as if the thermometer had dropped down to zero and the frost had frozen them solid. My early potatoes were ripe when the blight came and received no injury, my late ones when dug had but few in a hill, and these were half rotten. I have tried the "trench system" practiced by the late Mr. Carman, of the Rural New Yorker, and will say more potatoes can be raised by that system than by any other I know of, but it requires considerable more

work, and is not well calculated for large field planting.

According to my experience, good sod ground that has raised potatoes one year will raise a better crop the next. I planted one acre of thick timothy sod ground, broken up in the spring and well prepared. The yield was fair, but the sod did not rot soon enough to give them the full benefit of its riches. I planted the same ground again the next season, and broke up another acre of the sod ground adjoining it, and planted both at the same time. Both received the same tillage, and neither received any fertilizer, but the acre that grew potatoes the year before was much the best. We would suppose that a crop of potatoes would extract from the soil some of its most available constituents, and that the second crop not finding so ready a supply of nutriment would have been poorer than the first and poorer than the adjoining acre, which had been broken up that spring. This experiment has been tried several times, and every time with the result already described. There are two ways to account for the anomaly. In the first place, the ground planted again the second year was in finer tilth than the sod ground, and also had the benefit of the sod that had not fully decayed the first season.

J. W. INGHAM.

SOME RANDOM NOTES.

CURING PEA VINE HAY.

Editor Southern Planter:

I am glad to see that this subject is being ventilated in the *PLANTER*. The methods in the August number, especially the plan of Prof. Soule, do not materially differ from the method I have used for years, and have often detailed. The fact is that cow pea hay, instead of being such a difficult thing to cure, as many think, is really one of the easiest if not meddled with needlessly, and is stored before the leaves get crisp. One point I think should be well brought out. Never let the hay heat in the shocks, as the leaves will then fall in moving it to the barn. Now, that the value of cow pea hay is coming to be recognized, we hear from some that it is injurious to horses. The same thing is insisted on by some in regard to alfalfa hay, yet alfalfa hay is the sole roughage of thousands of healthy horses, and I have kept horses in the finest condition on pea vine hay as the only roughage. A friend in the blue grass section of Tennessee once wrote to me that he visited a breeding farm there and, was shown the sleekest lot of yearling colts he had ever seen. He remarked to

the manager, that "our blue grass makes fine colts." "No," said the manager, "blue grass is not in it, for cow peas made those colts." And it will always make slick coats on mules or horses either.

HAIRY VETCH.

Your reply to Mr. Bush in regard to the hairy vetch getting to be a weed reminds me of an answer made by a friend in Maryland to the same question. He said that the hairy vetch had doubled his corn crop, and that any weed that would do this was welcome to a place on his farm.

INTENSIVE TRUCKING.

Our friend, Jeffers, makes rather a queer argument against intensive trucking in winter by artificial means. A gardener should not use skill or means for growing crops out of season because some one in a warm climate is growing the same crops. Up near the great Northern cities men have built greenhouses by acres for the purpose of producing tomatoes, cucumbers and other things out of season, and the finer quality of their product enables them to get larger prices than the products in the warmer sections bring. Right here in Raleigh I have grown tomatoes in January and February, and have gotten much larger prices for them than the Florida product was bringing in our home market right alongside of them. But Mr. Jeffers seems to think that we should do nothing of the sort, but should lose the opportunity to grow these things at a profit in the North and the upper South, because the truckers in Florida are at the same time sending an inferior product to market. My notion has always been that a gardener should use skill in his business and reap the reward of skillful culture. We should get the best reward out of our gardening we can, for we are gardening for our own benefit, and not for others. The Northern truckers were compelled to use skill and glass in the competition with more Southerly growers, and they have shown how a very small area may be made, by the investment of capital and the use of skill in gardening, to produce far larger returns than many times the area in the open ground. The intensive work of the New Bern growers is but the beginning of winter gardening in the upper South, and it is a work that is going to grow. With the increasing scarcity of labor it is impossible for our truckers to crop the wide areas they did a few years ago in the open ground, and the concentration of capital and labor on a small area under artificial heat is a necessity of the business. Our growers are gardening for their own profit, and if by liberal investment and skilful cul-

ture they can beat Florida there is no good reason why they should not do so.

PEAR BLIGHT.

If there is anything thoroughly settled in regard to plant diseases, it is that the pear blight is caused by a microscopic bacillus, which grows downward from the tip of a shoot destroying the young growing cells of the so-called cambium layer. This bacillus has been isolated, and it has been proven that if an artificially grown specimen is inserted in the sap of a young growing twig it will at once grow and produce the disease. So that all this guess work about frozen sap and sun scald is simply nonsense. The presence of bacterial forms in the sap would not prove that they were the cause, of course, but when a certain form of these has been separated from all other forms present, and this form has been introduced into the growing tissues of the trees, and there continues to grow and cause the blight, the evidence is too strong to be longer doubted. If any one will watch his pear trees closely he can detect the first start of the blight near the ends of the twigs, and if then cut out ahead of it, there will be no further blighting of that limb. But if you wait till the leaves are dead and black a much larger part of the limb will be killed. Then if the dead shoots that are cut off are allowed to lie on the ground, the next spring the diseased sap will exude from cracks in the dead wood and the bees will be attracted to it, and then they will carry the germs to the blossoms on the trees and start another infection, for it always starts at the blossoms or the most tender shoots and grows downward. This bacillus is so minute that 150 of them placed end to end would make a line in length about the thickness of ordinary writing paper. And yet they are so numerous in the sap of a diseased limb as to make it look milky to the naked eye. Therefore there is no longer any use to waste time and thought on sun scald or any other imaginary cause, for the cause is as well known as that of small-pox or diphtheria, or any other germ disease of animals or plants.

V. F. MASSEY, *Editor Practical Farmer.*

NUTRITIVE RATION OF PLANT FOOD IN THE SOIL.

DOES IT INFLUENCE OR CONTROL CROP YIELDS?

Editor Southern Planter:

In your last I cited the reader the case of Mr. Z. J. Drake, as proof of the fact that, contrary to the teachings of Messrs. Whitney and Cameron, the great controlling factor in the yield of crops is the amount of plant food in the soil.

The above named gentlemen say: "It would appear from the results given in this bulletin that plants can and do yield ordinary crops (in fact, very "ordinary"), though growing in media containing very small traces of any plant food, while if the amount of these plant foods is increased a thousand times, they are unable to give corresponding increases in the yield." Now, I do not wish to undertake the task of proving that a "corresponding" increase can or will always result from artificial plant foods, even when applied systematically and intelligently, but what I do wish to prove, and what I can readily, unmistakably and incontrovertibly prove, is that their judicious use will give an increase, and a very great and remarkable increase, that no "cultural methods" or "suitable crop rotation" or purely "physical condition" into which the soil could possibly be brought, has ever accomplished or can ever accomplish in their absence; and this in spite of the statement of Messrs. Whitney and Cameron that "practically all soils contain sufficient plant food for 'good' (good thing they did not say maximum) crop yields."

I will now enter into details in regard to Mr. Drake's crop of *two hundred and fifty-five bushels of corn per acre, and how it was made*:

"Late in February one thousand bushels of stable manure and five hundred pounds each of manipulated guano, cotton seed meal and kainit were broadcasted on the acre and then plowed under. Following the plow six hundred bushels of whole cotton seed were strewn in the furrows. A subsoil plow was run through a depth of twelve inches. The land was well harrowed and the rows planted alternately March 2d, three and six feet apart.

"An improved strain of the common gourd seed variety of Southern white dent corn was planted, five to six kernels being dropped to each foot of the row. It was planted in rows five inches deep, but covered only one inch. At first hoeing the plants were thinned to one stalk every five or six inches, the missing spots replanted. On April 20th the six foot spaces were plowed and a mixture composed of two hundred pounds each guano, kainit, cotton seed meal, acid phosphate and bone was applied and hoed in. On May 15th the three-foot spaces were plowed, three hundred pounds of nitrate of soda sown and worked in. On May 25th, two hundred pounds of guano were applied in the wide spaces. Another application of five hundred pounds of guano, cotton seed meal and kainit was put on June 8th, and one hundred pounds nitrate of soda June 11th.

"The crop was harvested November 25th, before

several reputable witnesses. It yielded seventeen thousand four hundred and seven pounds of corn in the ear, of which one hundred and forty pounds was soft corn. Several tests showed that one hundred pounds ear corn yielded eighty-two pounds shelled corn, which made the yield two hundred and fifty-four bushels, forty-nine pounds of shelled corn at fifty-six pounds to the bushel, which, kiln dried, to contain only ten per cent. water, would contain two hundred and thirty-nine bushels."

Now, I am aware of the fact that agriculture is, as yet, far from being an exact science, and that the seeker after truth must be slow to reach positive conclusions, instead of jumping at them; but I cannot help believing that the plant food added by Mr. Drake to his contest acre was, in this instance, the "great controlling factor" that influenced and controlled the yield; and that, exceptionally favorable as the season was, the half of the above yield would not and could not have been obtained had said plant food not been added.

Contrary to the teachings of Messrs. Whitney and Cameron, when they roundly assert that "practically all soils contain sufficient plant food for a good crop yield," is the united experience of the entire farming world, our own included. I, together with many other practical men, experimenters and close observers, have found that, however perfect Dame Nature may be in her operations, she is proverbially slow in her processes; and her sons "art" and "science" have left their venerable yet still highly revered ancestor so far in the rear that she now has all she can do to keep in sight of her young, active and progressive progeny.

Yes, this same progeny have discovered that even the very richest and strongest of soils may be still farther enriched and improved upon. Man's life here below is altogether too short for him to fritter it away in the vain effort of studying out "physical factors the exact nature of which is yet to be determined," in their relation to crop yield, while there is so much exact and positive data, reliable data at that, the exact nature of which has already been worked out.

Whenever a soil is well supplied with plant food, either natural or artificial, or both, whenever a soil is well supplied with organic matter, whenever the crop is adapted to the climate, good seed planted, the soil moderately deeply prepared and the crops thoroughly cultivated, with the rainfall neither deficient nor in excess of crop requirements and with climatic and seasonal conditions favorable, success in the way of maximum crop yields is assured. There is no mys-

tery about it. No "physical factor the exact nature of which is yet to be determined."

The puzzle with the average agriculturist is not so much to find out the various "physical factors" or chemical or climatic or seasonal factors that influence crop yields, as it is to bring as many of the favorably influencing or controlling factors together as possible and bring them to bear on his own individual case. What man has done, under similar circumstances, can be done again, the puzzle being, how to bring together those "similar circumstances." They seem to be as elusive as are the undetermined "physical factors" of Messrs. Whitney and Cameron.

Gomez, Miss.

G. H. TURNER.

THE WHOLE SYSTEM OF FARMING AS PURSUED BY THE AVERAGE COTTON RAISER RADICALLY WRONG.

"A. C. K." (A Chronic Kicker).

Editor Southern Planter:

It is needness for us to try to enlighten the cotton raiser as to the system (or lack of system) pursued by himself, his daddy, and his grand-daddy, before him. They are all well posted along this line; they have also seen the evil results following from this system in the way of eroded, washed away and worn out fields, impassable gullies, depleted fertility, and, as a perfectly natural result, annually decreasing yields per acre, per hand, and per farm. Everything, even down to the manufacture, sale and use of the various improved implements, simply tends toward a still greater and more complete depletion of the fertility of our soils. What are we going to do about it? Is it not time to call a halt, and revolutionize a system that has brought nothing but destruction in its train?

Many good men have realized this destruction, as evidenced by the various remedies proposed, as, for instance, the "raising of live stock" of various kinds, "diversification," etc.; all of which advice is good, in some instances, but utterly useless because impracticable in others. Let us take "stock raising," for instance, which has been so often so extensively and so strenuously advocated as a panacea, a cure for all the ills of a poverty stricken soil, as well as of a poverty stricken "rural population." Is it a remedy for the existing evil? We deny it. If a remedy at all, is it of universal application (if not, it is a failure as such)? In many thousands of instances it is utterly and entirely impracticable; and even if "practicable," would be without efficacy. In a country where cattle can roam in the fields and pastures 300 out of the 365 days in a year, thereby making their own living for the 300 days, is it to be expected that a man should build expensive barns, with cement floors, and keep

his cattle housed the biggest half of the year, feeding them, watering them, and cleaning out their stables, etc., just for the fun of handling a few extra loads of manure annually? If so, where would be the advantage of living in a clime where forage is abundant and shelter comparatively unnecessary. And if this exceptionally favorable climate is taken the advantage of that could and should be taken where, oh, where, is the benefit to the cotton fields from the keeping of live stock as a fertilizer factory. Theory is one thing, practical experience another; aside from a few dairy farms (where more or less feed was annually purchased from abroad), we have yet to see a single instance where the fertility of the entire farm was even maintained, much less increased by the keeping of live stock.

For fully one-third of a century we have been engaged in the raising of cotton as a "cash crop," but while this is the case, we have always believed in and practiced such a "diversification" of crops as should render us practically independent of the entire outside world, so far as the "necessaries," and even many of the "luxuries" of life are concerned; we also try to raise a sufficiency of live stock of most all kinds to abundantly supply the needs of our own individual farm; we save the manure, but owing to pasturing everything, even our meat hogs, almost the entire year, have but little to save, and from both an extended experience and extensive observation, know that there are hundreds of thousands of our cotton raisers in the same fix. The remedy, then, and the only remedy for our depleted soils, or at least the only remedy that is practicable alike to all, and of universal applicability, is to so rotate our crops as that the same crop shall never be allowed to follow itself on the same land for two consecutive years; and to so arrange said rotation that fully one-third of the total area planted shall be devoted to some one of the leguminous crops, as cow peas, clover or vetch. As the leading object in the raising of leguminous crops is (or should be) the maintenance or increase of fertility, the more luxuriant the growth of the recuperative crop, the greater the amount of plant food furnished by it to the succeeding crop; hence to bring about an increase of fertility in any given soil, it is not sufficient simply to sow the land down to cow peas or clover, but everything should be done that can be done toward ensuring the most luxuriant growth possible, and for the furtherance of this object, the plants must be fed. Each and all of the leguminous crops are greedy consumers of potash and phosphoric acid, and where these are deficient (which is invariably the case in all old, well worn soils), but little growth of the recuperative crop will take place, but little nitrogen will be attracted from the atmosphere, but little actual recuperation take place. When 300 to 600 pounds of a fertilizer containing 8 per cent. each of

both potash and phosphoric acid is applied to each and every acre of cow peas planted, an increase of from 50 to 100 per cent. in the yield of the succeeding crop of cotton may be reasonably expected and confidently looked for, even without the direct application of fertilizers to the cotton crop; but when, in addition to fertilization of the peas, the cotton also is fertilized direct with from 400 to 800 pounds of a fertilizer analyzing about "3-8-4" for ordinarily fertile soil, or "10-4" (omitting nitrogen) for very rich soil (or those producing excess of weed) double speed in fertilization is made, and the crop yield may be doubled, trebled or even quadrupled.

Whilst there is great truth in what A. C. K. says as to the bad system of farming amongst cotton raisers, we cannot agree with him that live stock husbandry is not largely a remedy for this. There is no place in the whole world where live stock can be raised, grown and fattened as cheaply as in the South if a proper system be adopted and followed, and there is no place so near to the largest and best markets of the world for meat and dairy products. With such a conjunction of circumstances, live stock husbandry can be pursued successfully, and is bound to result in improvement of the land and profitable crops.—Ed.

LARGE YIELD OF WHEAT IN HALIFAX CO., VA.

Editor Southern Planter:

An esteemed neighbor, Mr. Newton A. Tulloh, made a very fine crop of wheat this year, the yield surpassing anything I have ever known in the State. He is so modest he will not write you himself, so I venture to write and write for the benefit of others on how he secured such a phenomenal yield:

He seeded five acres, and the yield was a little over forty bushels to one sown. From the five acres a crop of clover was cut last year; he then fallowed the land with a four-horse plow, pulverized the soil with disk harrows and then dragged it thoroughly and sowed the land in peas, as every farmer ought to do, then fallowed the field preparatory to seeding it in wheat. With the land thus nicely prepared the wheat was sown. During the winter—which was an exceedingly cold one—when the land was frozen, Mr. Tulloh would haul out his barnyard manure and spread it over the field, thus saving it from the severity of the cold.

There are many other farmers in our State who can do as well doubtless, and I hope they will try.

Halifax Co., Va.

SAMUEL L. ADAMS.

We would refer readers to our remarks on the proper preparation for a wheat crop in our article, "Work for the Month." There is danger in plowing down a pea crop as a preparation for wheat unless it is done very early.—Ed.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Feed Value of Wheat, Rye and Oat Hay Compared With Clover Hay—Feed Value of Buckwheat.

Will you, in your next issue (August), please give the relative feeding ratio in protein, carbo-hydrates and fat of wheat, rye and oat hay, as compared with good clover hay? Please give them separately and not as a mixture of the three cereals. Please give also the feeding value of whole buckwheat for horses, cows and hogs as compared with corn and bran. If you have or can procure any statistics from which you could give the approximate weight of the hay per acre of the cereals where the growth is medium length you would confer a favor on

Richmond Co., Va.

INQUIRER.

Although we have tables giving the analysis of hundreds of different feeding plants, grains, tubers and other food stuffs, and the reports of the analyses made of different kinds of roughage at the various Experiment Stations since they were established, we cannot find amongst all these an analysis of the composition of wheat hay or rye hay. We find oat hay cut when in the milk stage to contain 9.3 protein, 39.0 carbo-hydrate, and 2.3 fat. Red clover hay contains 12.3 protein, 38.1 carbo-hydrate, and 3.3 fat. We will look further into this matter, and, if possible, secure the information desired and publish later. We have numbers of analyses of the grain, straw and chaff of these cereals, but it is evident that as hays they have been little investigated. Buckwheat contains 10.0 protein, 64.5 carbo-hydrate, and 2.2 fat. Corn, 10.5 protein, 69.6 carbo-hydrate, 5.4 fat. Bran, 15.4 protein, 53.9 carbo-hydrate, and 4.0 fat.

We have no statistics giving the average weight of hay per acre made from the cereal crops, but should estimate same at probably about two tons to the acre.—Ed.

Yield of Rye in Virginia.

Referring to our editorial note in the August PLANTER, about the yield of rye in Virginia, Mr. H. L. Trollinger reports a yield this year on "Buena Vista" Farm, in Pulaski county, Va., as follows:

Twelve acres rye threshed out 345 measured bushels, or an average of 28 3-4 bushels per acre; five acres (adjoining) barley 167 bushels, or 33 per acre. The rye and barley grew on a strip of branch bottom containing 17 acres. The barley, before being cut, looked apparently not very good (having been frozen

out somewhat last winter), and the yield was a surprise to us. The rye was as fine a stand as we ever saw, and we expected 20 bushels per acre, but were greatly surprised at the big yield. We think fully 20 bushels wasted and left on the ground by blowing down and not cut by the binder. We got a good set of clover and timothy with both the rye and barley. Our average yield of rye has been for several years about 12 bushels per acre.

L. P. STEARNES.

Warwick Co., Va.

Sun Cured Tobacco.

1. Can tobacco grown on gray land be sun cured profitably in this section?

2. Will it heat in handling and marketing?

Please give process for sun curing tobacco.

Campbell Co., Va.

C. A. FERGUSON.

1. We doubt very much whether tobacco grown in Campbell county Va., can be profitably cured as sun cured tobacco. Attempts have been made in several counties outside the sun cured tobacco section to cure tobacco so that it would compete successfully with the tobacco of the sun cured section, but the market always discriminates against it, claiming that whilst in appearance it compares favorably, yet that it lacks a "something" in use which can only be found in tobacco grown in Caroline and adjoining counties. We do not advise the attempt. Grow a type of tobacco suited to your section and cure accordingly and aim to make it the best of that type, and it will sell on its merits.

2. Genuine sun cured tobacco should be cured on the scaffold in the field and finished off by air curing in the barn. If properly cured it will not heat in handling and marketing any more than tobacco cured by fire.—Ed.

Alfalfa.

1. I have about three acres of river bottom sandy and damp, but not wet. It also has sorrel. I have it now in soy beans. Would you advise me to sow in alfalfa?

2. Will the soy bean inoculate the ground for alfalfa?

L. H. HARRIS.

Lee Co., Va.

1. We have very little doubt but that the land would grow alfalfa. When you have limed the land and made it rich enough to grow alfalfa the sorrel will disappear. It is an evidence of the want of fertility in the soil, and of an acid condition, which lime will rectify.

2. The soy bean bacteria is not available for inoculating for alfalfa. You must get alfalfa bacteria.—Ed.

Inoculation for Legumes—Vetches.

1. Give methods of inoculating and bacteria cultures for each of the principal leguminous crops, including alfalfa and vetch.

2. Will the germ die in unimproved soil when no fertilizer is used?

3. What will the preparations cost and best place obtained?

4. What is the best paying variety of Pecan for this section? How far apart should they be planted when set alone? Also distance with pears between, best fertilizer, and how much used locally?

5. What do you think of vetch as horse food sown in fall with rye or oats?

6. Will this cure well when cut with binder and allowed to stand in small shocks?

7. Can a fair crop be raised on gray land (without fertilizer), producing five barrels of corn per acre?

8. Does it impoverish land growing this crop for hay, and what is the value of vetch and rye grown on such land for fallow?

9. Will one or two subscribers answer this question for a Western farmer subscriber, "Why is land so cheap in this old country, so often spoken of as 'God's Country'?" Would like to have this answered fully.

Dimwiddie Co., Va.

C. A. L.

1. The bacteria for inoculating most of the leguminous crops can be had from the Department of Agriculture, Washington, free of charge. This means that sufficient can be had to inoculate the seed required to sow a small plot. After this plot has produced the particular legume inoculated for, then soil from this plot can be used to inoculate seed for a large area. The land is inoculated either by infecting the seed with the bacteria by mixing same with some soil and water and then mixing the seed with this or by mixing same with soil and spreading the soil on the land, and then sowing the seed. Or the land may be infected by getting a bag of soil from land growing the particular legume desired and spreading this soil on the land desired to be infected. One hundred pounds of infected soil will inoculate an acre.

2. The bacteria will continue to increase in the land if the particular legume to which it is peculiar is grown on the land either continuously or at no greater intervals than two or three years. The presence of the particular crop and not fertilizer is essential to the continuance and spread of the bacteria.

3. See reply to No. 1.

4. So few Pecans have been grown in this State that it is not possible to answer this question. The growing of Pecans so far north as Virginia as a commercial crop is yet only in the experimental stage.

We would not advise any one to plant more than a few trees as an experiment. We have reports of isolated trees in different parts of the State bearing freely, but whether they will pay when grown in large orchards remains to be seen.

5 and 6. The Hairy Vetch and the English Vetch both make excellent forage crops grown in mixture with oats or rye, but especially with oats, which are a much better feed than rye. The best way to harvest the crop is to cut it with a mower like a hay crop and cure like curing clover hay.

7. Land such as this would not produce a heavy crop unless helped with some acid phosphate or manure.

8. The growing of vetches improves land in so far as they add nitrogen and humus to the soil, but they like all the legumes are large consumers of phosphoric acid and potash, and unless there is an abundance of these in the soil or they are applied freely, the crop will not make a heavy growth. They make good hay and an improving fallow.—Ed.

Lime Spreader.

Please let me know where I can find a manufacturer of a lime spreader, as I want to buy one.

Bedford Co., Va.

A SUBSCRIBER.

The Kemp & Burpee Manufacturing Co., Syracuse, N. Y., and the Smith Manure Spreader Co., Chicago, both of whom are referred to in this issue, make machines which will spread lime.—Ed.

Grubs in Nostrils of Sheep.

I have lately killed for food a number of lambs that were dropped in April. They are fat and good, but I find in the noses of each one or more grubs. Can these grubs be removed or kept out in any way? I have them running in old pasture.

Bedford Co., Va.

H. S. HUBBARD.

The grubs found in the nostrils are the larva of the sheep bot fly. This fly, which is almost like a small bee, will be found buzzing about the sheep and causing them great alarm. They will seek to hide their heads in bushes or grass, as they know instinctively that the fly is seeking their nostrils to deposit the egg, which almost immediately hatches into a grub. This grub has a pair of hooks on its head, by which it makes its way up the nostrils and attaches itself to the membrane lining the cavity of the skull, where it spends about three-fourths of the year, emerging when fully grown and falling to the ground, where it makes its way into the soil, and in the warm, early summer changes into the fly which at once begins its work of pestering the sheep. Unless the grubs are very nu-

merous they do not seem to cause the sheep much injury. They are usually more a source of annoyance, causing sneezing and restlessness than actual injury. Many of the grubs are ejected by the snorting and sneezing of the sheep. Sometimes, however, the grubs get fixed so far back in the membrane of the skull lining that they cannot be forced out, and then cause brain trouble and serious danger to the sheep. There is no practical means of completely preventing the attacks of the fly. Tarring the nostrils of the sheep frequently during the summer is the best that can be done. A mixture of tar and fish oil is better than tar alone as a preventive. The grubs may be usually removed by syringing the nostrils out with a syringe made specially for the purpose, which has a long bent tube or nozzle. A mixture of linseed oil and turpentine in equal parts is injected through this syringe, and usually brings the grubs away. Where the grubs become fixed in the skull and serious danger is threatened and they cannot be got out with the syringe, the operation of trepanning is resorted to. This involves the cutting of a hole through the skull bone and the removal of the grubs by means of forceps. All sheep and lamb heads, from dead or slaughtered sheep, should be burnt at once, as they almost invariably harbor grubs, and the flies are hatched from them and increase the trouble. The syringe required can be obtained from dealers in veterinary instruments, and probably from Marvin, Smith & Co., of Chicago.—Ed.

Nitrate of Soda for Cabbage.

I have cabbage plants set for fall and winter use, and wish to apply nitrate of soda, 300 pounds to the acre in three applications. Please advise whether to apply on top of soil or on one side of plant and then cover. Have used light application of dry, ground fish and kaint in drill.

W. L. RUSSELL.

Northumberland Co., Va.

Apply the nitrate down each side of the rows on the top. It will melt as readily as salt, and find its way to the roots without any cultivation.—Ed.

Protecting Hams from Skippers—Raising Chickens.

As you asked a remedy for keeping skippers from hams and shoulders of hog meat, I will tell you how we do. When the hams and shoulders are taken from the pickle, place them on a table or board to drain. Wipe them off with a cloth, take whole pepper and grind. Take good sorghum molasses and rub over the flesh side with your hand, then put the pepper over it, again rubbing with your hand, and when dry bag them. When you want one for use take it out of the sack and wash with soap and water.

Then rinse off with clear water, hang up uncovered, and you will have nice meat.

My way of raising chickens. When taken from the nest, give them three swallows of water, feed them cooked food six or seven times a day, giving pure water twice a day. Never had any die of gapes. Starvation and uncooked food cause gapes.

Wood Co., W. Va.

Mrs. J. Y. SMITH.

Vetch—Alfalfa.

1. Will you please let me know what kind of vetch will be best to sow? Expect to sow about the 10th of September. Soil is medium light. What will be the best kind of fertilizer to use, and how much to the acre, and wouldn't it be well to sow some oats or wheat with them to keep them from falling down, and how much to the acre?

2. I also wish to try a small piece of alfalfa. When would be the best time to sow, and how much to the acre?

H. J. ROSBACH.

Hanover Co., Va.

1. Sow Hairy Vetch from September to the middle of October, and English Vetch from the middle of October to the middle of November. Sow 25 pounds of Vetch seed and three-quarters of a bushel of winter oats, rye and wheat in equal parts per acre. Apply 300 pounds of acid phosphate per acre.

2. Sow the first week in September, 25 pounds to the acre.—Ed.

Soja Bean or Corn.

1. Can as many soja beans be raised to the acre as corn?

2. Are they as good a feed for horses as corn?

3. Will they do as well to fatten cattle as corn?

4. Which had a farmer and stock raiser best grow, the soja bean or corn?

5. Is soja bean straw after they have been threshed as good a feed as corn fodder? W. M. HEATWOLE.

Rockingham Co., Va.

1. No. Soy beans will not usually make more than 25 or 30 bushels to the acre.

2. They are valuable as a feed for horses, cattle, sheep and hogs, but should not be fed alone. They are rich in protein (the muscle and flesh forming matter), and when fed with corn supply what that grain lacks in this respect. Corn is a carbonaceous food making fat and supplying heat and needs protein added to make it a complete feed. Much better results will be had from feeding the mixture than from corn alone.

3. See No. 2.

4. A farmer and stock raiser should grow both in order to get the best results.

5. No. It is a harder and rougher feed and stock have to become accustomed to it before they will eat it freely. They are fond of it when used to it.—Ed.

Dehorning Cattle.

1. Is there any danger in dehorning old cattle?

2. What is the best dehorner?

3. When best time for the operation? I never had any experience dehorning. Have about fifty head to dehorn before winter; would be glad of any information you deem necessary for a beginner.

4. Can you give me the address of some manufacturer of pure bone meal.

R. M. LEWIS.

Mecklenburg Co., Va.

1. No; not unless done when flies are troublesome and care is not taken to keep them out of the wounds.

2. The H. H. Brown Manufacturing Co., Decatur, Ill., and M. T. Phillips, Pomeroy, Pa., both make good dehorning instruments.

3. Either before flies have become troublesome or after they have gone, but not in the coldest weather of winter. Have some tar on hand and cover the stump of the horn and around it with this after the horn has been removed.

4. We do not know any local maker of bone meal, but you will get it as cheap from the seedsmen who advertise in the *PLANTER* as from the makers.—Ed.

Alfalfa.

I have four (4) acres in front of my home that I am anxious to get into a permanent grass plat, and alfalfa is my great desire, if this land can be made to grow it. The soil is gray top soil and clay subsoil. Two years ago when I bought it, it was in wheat. Last spring it was well covered with stable manure, which was well worked in. Then it was sowed to peas, which made a tremendous growth. The vines were cut for hay, and the roots and about six inches of vine were turned under for green manure, having been limed first to prevent souring. The plat was then sowed, with disc drill, to winter oats, orchard grass and clover, with 350 pounds bone meal to the acre. I threshed 180 bushels of oats from this field this season; but there is a miserable stand of grass; and the field has been taken possession of by weeds. Now, if I fallow and subsoil this plat now, harrow, plough and reharrow several times, work in 20 bushels lime to the acre and 500 pounds bone meal and sow 20 pounds alfalfa, thoroughly inoculated with alfalfa bacteria from Agricultural Department, will I be likely to get a good stand, if I sow alfalfa by the first week in September? Or, would you advise simply experimenting with one acre? I am anxious not to lose this year's time, and yet do not wish to put the money in four acres unless there is a good chance

of getting a stand. Every one in this neighborhood is interested in alfalfa and anxious to see some one make a stand. Is acid phosphate as good as bone meal for alfalfa?

L. L. L.

Pittsylvania Co., Va.

We are of opinion that if you treat this land as you suggest that you will be able to get a good stand of alfalfa. It is very probable that you may have trouble with the weeds the first year, but if you take care to cut the alfalfa several times, leaving the cutting as a mulch we think that the growth of the alfalfa will be vigorous enough to smother down the weeds, as the land is in a good state of fertility. As a source of phosphoric acid the acid phosphate is as good as bone meal, but the bone meal is also a source of nitrogen, having 4 or 5 per cent. of that element, which is not to be found in the acid phosphate. The phosphoric acid in bone meal is slower in action than that in acid phosphate, and is therefore more desirable for a grass or clover crop, which will hold possession of the land for a number of years.—Ed.

Breed of Sheep for Low Country—Winter Oats.

1. I am making arrangements to start a small flock of sheep on a farm in Wicomico county, Md. I want a breed that will shear well, and that will mature a good crop of lambs each season for our local market. Of course, it is my intention to give the flock the best attention. I have a theory that all breeds of sheep do best in a high altitude. Am I correct in this. If so, is there a breed that flourishes to a greater extent than all others in a flat country such as the Maryland-Delaware-Virginia peninsula is? Such a breed would be the one for us, I think.

2. Would winter oats be a safe crop to seed in this latitude, which is about the same as that of Culpeper and Stafford counties, Va.? If so, what varieties would best suit the conditions. Spring seeded oats do well here, but so far as I know, there never has been a trial of winter oats in the county. What is the superior advantage of winter oats over spring seeded oats?

C.

Wicomico Co., Md.

1. You are no doubt correct in believing that nearly all breeds of sheep do best in a moderately high, rolling country. To do well sheep must have dry feet and dry sleeping quarters. In England there are two or three breeds which have been acclimated to low lying sections of the country, but they are practically unknown here. In our opinion the breed which will best meet your conditions is the Shropshire. They have become thoroughly acclimated in this country, and breed lambs that always sell well on any market. They make a good fleece

and good mutton. They do well in Eastern Virginia when properly cared for, and we think cannot fail to do so in Maryland.

2. We know of no reason why the Virginia Gray Winter Oats should not succeed in your section. Your climate is very like that of sections where they do well in this State. The advantage of the winter oat is that it makes a better yield of heavier oats than spring varieties do in the warm climate of the South. It grows and matures in the cooler part of the year, and the oat being naturally a cool climate crop, this one best suits our climatic conditions.—Ed.

Home Brewed Beer.

Can you give me, through the columns of the *PLANTER* or otherwise, a receipt for making the old-fashioned English home brewed ale and beer. This is more a question of the home comfort of the agriculturist than it is of advancement in agriculture, but I trust you will consider it within the province of your paper to reply.

W. H. CALHOUN, JR.

Ashe Co., N. C.

When a boy at home in the "Old Country," "brewing day" was as regular an event as "baking day." Home brewed beer was always on draft in the cellar and served on the table at dinner time every day. This was the custom in the homes of both rich and poor in my county. This is now so long ago that I have forgotten the proportions of water and malt used. This, however, I do know, that the proportion of water used was large for the quantity of malt, for no one was ever known to become intoxicated with the beverage, and yet it was wholesome and nourishing. The only ingredients used in making the beer were barley malt, hops and water, and it was fermented with yeast, the custom being to save yeast from one brewing to another for this purpose. The malt was put into the mash tub, and water, which had boiled and then just had the boiling checked with a dash of cold water, was poured upon it, and the mash allowed to stand an hour or so, when the liquor was drawn off into another tub and put into a large fixed iron pan with a fire under it and boiled for a certain time, a few pounds of hops being added to give it a slightly bitter taste. After boiling the liquor was cooled, strained, and then set to ferment in a large tub, yeast being added to start the fermentation. After fermenting 24 hours the beer was then put into barrels and kept in the cellar, where it was cool, being drawn from as required.—Ed.

Frog Farming.

Can you give me any points about frog raising,

and whether it would be remunerative? I live on a large farm, and think I might utilize a piece of swamp land, and as I live about fifty miles from Washington, thought there might be demand for frog legs at the large hotels.

A SUBSCRIBER.

Fauquier Co., Va.

We must frankly confess that we know nothing about frog farming or its potentialities for profit. Possibly some of our readers may know something about it. If so, please reply.—Ed.

Vinegar.

Can you or your readers tell me how to keep vinegar to have it strong for a long time?

Chesterfield Co., Va.

H. DEWHURST.

The vinegar after it is sour should be drawn off into clean casks or bottles and be sealed up tightly, and it will keep its sourness indefinitely.—Ed.

Removing Stumps.

Could you please give me advice in the September issue of the *PLANTER* as to which is the safest and cheapest way to blow out stumps, mostly white oak, from 10 to 20 inches in diameter, trees having been cut down for several years. Should you advise dynamite, then please let me know how same must be handled and where it can be bought, and in what amount and price.

A SUBSCRIBER.

Lunenburg Co., Va.

Dynamite is the safest, surest and cheapest means to use to remove stumps. Twenty cents' worth of dynamite will remove any one of such stumps as you mention when properly applied. It requires some practice, however, to know where best to place the charge. Usually the best way is to bore a hole into the stump near the ground and between the main roots. Use an augur with a long shank and bore the hole about one-eighth of an inch larger than the diameter of the cartridge of dynamite, so that it will go in easily. One cartridge is usually sufficient, but in an old, large stump two are more certain. Bore the hole well into the centre of the stump. Before inserting the cartridge insert the exploding cap and fuse and then push the cartridge home and tamp solid with soil, tamping gently at first and more firmly as the hole is filled. Let the fuse extend a foot or eighteen inches beyond the hole, and after lighting it get 100 yards away. It is as safe an explosive as can be used, and with ordinary care in handling no accident need occur. Write Southern Railway Supply Co., whose ad. you will find in the *PLANTER*, for price of dynamite, telling them the purpose for which you want it.—Ed.

Staining a Floor.

I have a pretty white pine floor in my house. I find it next to impossible to keep it clean.

1. Please tell me some good preparations for coloring floors. I prefer something that will not make them very dark?

2. How much must I get for a room 18x20 feet.

MRS. W. T. HENLEY.

King and Queen Co., Va.

The paint and drug stores sell staining of various shades for this purpose. Write the Tanner Paint & Oil Co., Richmond, for particulars of these and quantity necessary. Say we referred you to them.—Ed.

Johnson Grass.

Next spring I propose to put in Johnson grass several acres of my farm, and in the meantime would like to get the experience of others who have grown this grass north of Richmond, Va. What I wish particularly to ascertain is the effect of our northern winters upon it. Will it withstand our frost?

District of Columbia.

R. S. LACY.

Will some reader who has had experience in the section referred to please reply. We know there are numbers of farmers in that section who have tried the grass.—Ed.

Seed Oats and Wheat.

Please answer in next issue whether it is better to sow now the winter oat from the fall or spring seedling, and if it would not pay to get our seed wheat from a limestone section? Can you recommend a person or locality from whence same can be procured?

Mecklenburg, Co., Va.

C. B. CROWDER.

Sow winter oats from a fall seeded crop. It would probably pay to get seed wheat from a limestone section, if not too far away from your section. The best crops are usually made from seed acclimated to the section where grown. See our advertising columns for the names of parties offering seed wheat and oats.—Ed.

"Can Alfalfa Be Made Into Good Silage?"

The above question asked you in the July *SOUTHERN PLANTER* is fully answered in Farmers' Bulletin, No. 124, which can be obtained by writing to U. S. Department of Agriculture. This bulletin says it can.

R. L. WALDROP.

Mabelton, Va.

The bulletin referred to contains a report of a small experiment made at the Colorado Station, which was a comparative success. There does not appear, however, to have been any practical work on this line on a large scale anywhere.—Ed.

Grass Seeding.

If convenient and space permits, would like to have you advise, through the *PLANTER*, the best method to put about 100 acres in grass for pasture this fall, if possible; 30 acres upland wheat stubble, 50 acres upland oat stubble, 20 acres bottom, in corn now. Some very poor spots we intend to manure. It is quite a distance from the barns, so will probably have to use fertilizer and lime on all of it except probably the bottom land. Any advice you can give us will probably interest others, as a great many in this section intend to seed down pasture. Would also like to know the best seed and quantity for permanent pasture. The soil is rather heavy, part red, part gray, clay subsoil. *ELKTON STOCK FARM.*

Bedford Co., Va.

In our August issue in the article "Work for the Month" we wrote somewhat fully on the subject of seeding to grass, and to this article refer the enquirer. The wheat and oat stubble can well be seeded this fall. It ought, if possible, to be done this month, so that the crop may get well started before winter. Prepare the land as finely as possible by plowing and frequent working with the harrow (the cutaway or disc is best), roller and smoothing harrow. Apply lime, say from 25 to 50 bushels to the acre, after plowing and work this in. Then just previous to sowing the seed apply from 3 to 500 pounds of bone meal to the acre, and work in. *Sow grass seeds alone* without a grain crop, and cover lightly by rolling if dry enough, followed by the smoothing harrow. For pasture mix orchard grass, tall meadow oat grass, herds grass, meadow fescue, Virginia blue grass and perennial rye grass in equal parts by measure and sow at the rate of 3 bushels to the acre, adding also 5 pounds of alsike or red clover per acre. The corn land cannot be seeded with a fair prospect of success this fall. Sow it in crimson clover, wheat, oats and rye mixed for winter and spring pasture. Plow down in spring and sow to peas and then sow grass in the fall.—*Ed.*

Selection of Seed Corn—Barren Stalks.

If there are two or more ears of corn on a stalk, would the top or bottom ear make the best seed? and does it make the seed worse to allow stalks that have tassels and no ears to remain in the field, or should they be cut out?

W. H. CLARK.

Patrick Co., Va.

It is usually best to select the bottom ear as seed from this ear is likely to induce the habit of earing nearer the ground and reducing the height of the corn. All corn grown in the South has a tendency to grow too tall, thus expending plant food in the pro-

duction of stalk at the expense of the ear. This tendency it is desirable to counteract by selection. The tassels of all barren stalks should be cut off before they disseminate pollen. If this practice was consistently followed by all corn growers the percentage of barren stalks in corn crops could be rapidly reduced and the yield of crops be largely increased.—*Ed.*

Patent Fertilizer Lime.

Will you please advise me through the columns of your paper as to the advisability of using "patent process fertilizer lime," as per enclosed pamphlet, in the place of acid phosphate and potash, on a pea stubble for wheat?

What relation has this lime to the old agricultural lime and to land plaster, as to results or action on the soil? If the same, is the quantity suggested, 250 pounds per acre, sufficient? What would be the result if used with other fertilizers? *A SUBSCRIBER.*

Culpeper Co., Va.

The Ohio Experiment Station has conducted experiments with this so-called hydrated lime in comparison with common lime, and reports as follows: "We have as yet no reason to believe that the so-called 'fertilizer lime' possesses any virtues not found in common lime."

Lime is not strictly a fertilizer, and cannot be made to take the place of plant food in the form of manure or fertilizer. Its beneficial effects arise from its power to make inert plant food in the soil available, and to its action on the physical and mechanical condition of the soil. Lime in any form should not be used immediately in connection with commercial fertilizers or farm-yard manure. Used in connection with fertilizer it has the effect of reverting the phosphoric acid into an insoluble form, and in connection with manure of releasing the ammonia.—*Ed.*

To Prevent Skippers in Hams.

I see several inquiries in the *SOUTHERN PLANTER* as to keeping skippers out of hams. For sixteen years I have cured from one hundred to one hundred and fifty hams per year, and have not had a skipper on any of them. When you take the meat out of the salt to hang it, clean off the loose salt and apply pulverized borax to the cut parts freely. Skippers will not bother the meat if kept in a light smokehouse. A large baking powder can with holes in the top is a good thing with which to apply the borax. I have never had any complaint from my customers, and the hams do not show that the borax has been used, and it is not injurious. All the farmers in this section of the country use this remedy, and there is very little loss from skippers. *ALEXANDER BLACK.*

Montgomery Co., Va.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The work of harvesting and storing or shipping the various fruit and root crops will require constant attention this month. Do not allow fruit to hang on the tree until it has become overripe, nor allow root crops to remain in the ground after they have matured. The sooner they are gathered after they are ripe or matured enough to keep the better they will keep through the winter and the nicer condition they will be in when shipped to market. All fruit and root crops pass through a "sweat" after they are gathered, and they should not be stored for winter keeping until this "sweat" is over. Place them under cover in any airy, dry place in small piles or heaps until they have ceased to sweat, then carefully sort them over and take out for immediate use all damaged specimens or those giving indications of early decay. Only perfectly sound fruit or tubers of any kind should go into winter storage or be shipped to market. Apples and pears keep best stored in slatted bins or ventilated barrels in a dry, airy room, where an equable temperature well above the freezing point can be maintained. Irish potatoes, turnips, beets, mangels and carrots keep well stored in dry cellars well covered with straw, or made into pies or kilns on high dry ground, and well covered with straw and soil sufficient to keep out rain and frost. Onions keep best stored on slatted shelves in a dry, airy room or shed, where the temperature will not go down below the freezing point. Sweet potatoes require to be kept at about 45 or 50 degrees, and should be well dried off by a higher temperature than this before being closed up for the winter. In the absence of such a warm cellar as this, they may be kept in kilns or pies well packed in pine tags or dry sand and covered thickly with straw and soil.

Prepare the land for and sow kale and winter spinach in the place where the crop is to grow to maturity. These crops do not require the land to be over rich or they make too tender a growth to stand the winter frosts, yet they require a fair supply of plant food to push them into growth in time for early shipping North or for home use in the early winter months. Sow in drills 2 feet apart and do not sow too thickly.

The fall crop of cabbages and broccoli should be set out and pushed in growth by cultivation and the ap-

plication of a top dressing of nitrate of soda, 100 pounds to the acre. They should begin to head up in October and complete their growth by November.

Seed should be sowed towards the end of the month for the crop of early spring cabbages. The best variety to sow is Early Jersey Wakefield. Do not make the seed bed too rich. Short, stout, stocky plants are what is needed, ready to set out in October and November.

Potato onion sets should be planted out this month on rich, well prepared land. Set in rows 15 or 18 inches apart and 6 or 8 inches apart in the rows. These make the earliest green bunch onions for spring, and a crop of dry onions which will mature for market before any of the seed varieties.

Seed may be sowed towards the end of the month in beds to raise plants of the different seed onions for setting out in the spring. Sow the seed thinly. Southport White Globe, Pearl, Yellow Danvers and Red Wethersfield are good varieties.

Seed should be sown in beds to raise lettuce plants for setting in cold frames for winter cutting and for plants for spring planting. Sow where the plants can be protected by mats or brush in winter.

Strawberry plants may be set out in this and the following month. Prepare the land well and give it a good coating of farm-yard manure, 300 pounds of cotton seed meal and 300 or 400 pounds of acid phosphate and 100 pounds of muriate of potash to the acre. Set the plants in rows 18 inches apart and 15 inches apart in the rows. Make the holes large enough for the roots of the plants to be well spread out and press the soil firmly to the plants, leaving the crowns of the plants just above the level of the soil.

Clean up all trash, vines and vegetable refuse, and either burn the same or compost with hot farm-yard manure, so as to destroy weed seeds and fungous germs.

Sow crimson clover or hairy vetch on all land not wanted for winter crops, so as to conserve and improve the fertility of the land.

HISTORY OF THE PEACH.

Editor Southern Planter:

The peach has an interesting history. Whence came the long list of over 300 varieties we now have in cultivation? Why is it that we have varieties now in cultivation peculiarly adapted to the citrus belt, but will not fruit at all in more northern climates? Also, why is it that we have varieties hardy in bud and sure bearers in the middle States, but will not bear at all in the citrus belt? The reasons are clearly brought out in the story of the peach's history. Therefore this history is not only interesting because it is about one of our most important luscious fruits, but also because most important lessons in regard to the culture of the peach may be learned from its history. We have made a classification of the peach into five races, based largely upon the origin and history of the varieties. Since this classification became known more sure bearing orchards have been planted in the Southern States, where peach culture is now developing most rapidly.

The origin of the peach is shrouded in mystery. One author states that it was evidently in the "Garden of Eden." It was known to Theophrastus 332 years B. C. Its congener, the almond, is mentioned in the Bible as occurring in the days of Jacob. Alphonso de Candolle claims that the peach originated in China instead of Western Asia, as commonly supposed. Importations of peach stones, he claims, from China into Bokhara and Persia very possibly took place. That the peach originated from the almond, as advocated by Knight, is refuted by De Candolle on the ground of botanical differences and geographical botany. "It was brought from Persia to Italy by the Romans in the time of the Emperor Claudius."

The history of the peach really begins with the importation of this fruit into Italy, where a considerable quantity of it was grown at the beginning of the Christian era. It was cultivated in Britain in 1550, and was brought to the United States about 1760.

Peach trees were found growing wild in Arkansas by Nuttall in 1812. The first effort to start a good-sized peach orchard in the United States that I find any account of, was made by Mr. Bayley, of Accomac county, Va. He planted 6,800 trees in an orchard. The next commercial orchard was planted in Delaware in 1832 by Isaac Reeves and Jacob Ridgway, near Delaware City. Earlier varieties of the Alexander type were introduced in the seventies, and they encouraged the peach industry greatly. In a few sections of Michigan and Delaware the peach industry developed rapidly until the dreaded "peach

yellows" was first recognized in 1867. In 1880 many pioneers in peach culture at St. Joseph and Benton Harbor had their orchards laid waste by "yellows," and they gave up in despair. Large orchards were destroyed in Delaware by yellows in 1890.

Many of the large experiments with peaches were made in the Northern States with what we call the "Persian Race" of peaches. In the meanwhile a most important evolution was taking place in the South, about which little was being said. The "Persian Race," the meaning of which I will explain later on, proved to be very unreliable in the South. In fact, in some States, it scarcely bore at all. Peach stones were imported from other countries with the hope of getting something better. From these importations new races have sprung into existence that are now revolutionizing peach growing in the Northern as well as in the Southern States. Enterprising nurserymen and individual growers were trying to find varieties better suited to the Southern tier of States. Numerous seedling trees were grown from trees that fruited at home and also from seed obtained from China, Australia, England, France and Spain. Here and there the best trees that fruited from the seedlings were saved. In some instances the foreign trees were grown near the native trees and nature crossed them. Seedlings from these crosses were fruited and varieties were produced that surpassed everything in the peach line known in the world's history of the peach before. They are still being produced every year. It is too early to write a full history of the peach along this line, since we are in the midst of a great evolutionary period. Peach orchards on a gigantic scale are being set. It took over a century to learn that the peach from Persia was not well suited to the Central and Southern States. A peach orchard of 9,000 acres is being set in Texas, and when completed, will be the largest peach orchard ever known in the world. The races of peaches that make such large orchards possible as a financial enterprise at this time should be understood with clearness.

We divide the cultivated varieties of peaches into five distinct races. (The botanical characteristics of these five races are described in detail by the author in Bulletin No. 36, Texas Experiment Station.)

The differences in these five races have been brought about by the varieties having been grown so long in widely different climates.

The Persian race originated in the high altitudes of Persia. Hence, many of these varieties are not at all suited to climates where the temperature seldom goes

down as low as 25 degrees F. Some of the varieties are tender in bud. Such varieties as Alexander, Old Mixon, Stump and Crawford belong to this race. For nearly two centuries varieties belonging to this race were the only ones planted in the United States. Therefore the many failures made (especially in the Southern States) can be readily accounted for. It is probable that we may find varieties from another race less susceptible to attacks of yellows and rosette than varieties belonging to this race. If so, the many waste places in the North where orchards now have been laid low by these dreaded diseases may be made to bloom crimson and pink again with the peach each recurring spring. This is a line of experimental work certainly worth trial in such localities.

The North China race is by far the most important one known to the peach world. The Chinese Cling (Shanghai), which is the mother of the race, was brought over from China by Chas. Downing, through Mr. Winchester, the British Consul at Shanghai. Mr. Henry Lyon, of Columbia, S. C., to whom Mr. Downing sent a potted tree, was the first to fruit it in 1850.

A second importation was made by Dr. William A. W. Spottswood, of the United States Navy, in 1860, and the peach stones were presented to Judge Campbell, of Pensacola, Fla. From this importation originated Lee, Stonewall and Spottswood varieties. Afterward, Mr. P. J. Berkman and his father obtained a full set of the varieties from Mr. Campbell and began to experiment with this race. They originated and introduced many valuable varieties. There are other noted varieties that came from this race, such as Carman, Mamie Ross, Family Favorite, etc., but the most noted of them all is the Elberta. It leads the list of all American varieties of peaches, and has proved to be a most wonderful stimulus to orchard planting in the United States. It originated from Chinese Cling seed planted in 1870 by Samuel H. Rumph, Marshallville, Ga., and was named after Mrs. Clara Elberta Rumph. While this race comes much further south than the Persian race, still the amount of Persian blood in the Elberta carries it well up into the Northern peach belt.

The Spanish race was developed in the Southern States from seed brought over from Spain. So far I have been unable to find definite statements in regard to the history of this race. It is commonly called "native peach," in many of the Southern States. Such varieties as Cabler, Columbia, Galveston, Texas and Victoria belong to this race. Some of the red streaked varieties were grown by the Indians, and hence, in some Southern localities, such

varieties are called "Indian peaches." These varieties bear heavily, and come further South than those of the North China race. The name "Spanish Race" was given because this group came from Spain to the United States.

The South China race has been developed from the honey peach. From all I can learn, the honey peach was imported from China by Chas. Downing at the same time the Chinese Cling variety was, in 1850. The original potted tree never fruited with him, but when a budded tree from it was sent further South and placed in the care of the late Henry Lyon, Columbia, S. C., it bore fruit. Later, the variety was placed in the hands of P. J. Berkman, Augusta, Ga., and the only stock was held by him until 1858, when it was sent out the first time. The variety did not fruit well at Augusta, Ga., but when sent further south into Florida and Texas it bore well. The Climax, Coleman, Early China and Pallas are varieties that have come from this race. They fruit well in the extreme Southern States. Honey is supposed to have developed in Southern China, hence the name of the race.

The Peen-to race grows best in the northern part of the citrus belt. The original Peen-to variety was imported from Australia by P. J. Berkman in 1869, but it came originally from China, where it is still well known. Angel and Waldo varieties are the most noted varieties belonging to this race. This race is supposed to have originated in a very warm climate of China, and it comes further south in the United States than any other peach. Consequently, bearing peach orchards are now growing further south, where it was impossible to produce the peach with other varieties before.

We have our bearings now. Lasting foundations for successful peach culture in the United States have at last been laid. We can now cross varieties and plant varieties intelligently for certain latitudes. The great commercial peach orchards that are now being planted in the United States have been made possible by such men as Chas. Downing, Henry Lyons, P. J. Berkman and Samuel H. Rumph. These men have done work that blesses humanity with each recurring peach harvest. Northern peach growers are taking new courage and are planting peach orchards south as a result of development of sure bearing varieties. Golden harvests await intelligent peach planting in Virginia. Let us not forget such important early efforts that laid the foundations upon which we are building.

R. H. PRICE.

Montgomery Co., Va.

Live Stock and Dairy.

STOCK FARMING IN THE SOUTH.

Editor Southern Planter:

I am much interested in the article in your July number on the "*Dual Purpose Short Horn*," followed by the comments made by Prof. Massey in your August number.

Just a year ago I devoted the time usually spent on my annual vacation in Europe, to visiting many of the leading herds of cattle in England; those alike of tenant farmer and of landed proprietor. As there seems to be some misapprehension as to the meaning of the word "Tenant Farmer," just one word by way of explanation. It does not necessarily signify what the term to some might convey; a small farmer of limited means, but simply conveys the idea of one who for some reason or other rents the land which he occupies. For instance, Mr. Taylor, of Cranford, Middlesex county, to whom you refer in your article, is a gentleman farmer, who regularly hunts with Lord Fitzharding's hounds, and owns a very large herd of pure bred Short Horns, with which he supplies milk to the nearby market of London. He rents, like many another, because it is impossible in many instances in England, either on account of the disinclination of owners themselves or through family trusts, to break the tenure of the land immediately adjacent to great cities.

At the time of my trip, I proposed—a plan which has since materialized—to own a farm in Virginia. I sought on my travels to find just such an animal as you describe in your article, what I may call a "Farmer's Joy"—a grand milker during life and a fat carcass at death.

In search of information and through the kindness of friends, I visited many herds, including that of His Majesty at Windsor, where Short Horns and Herefords for beef purposes flourish, Lord Rothschild's herd at Tring Park, where the milch cow reigns supreme; and also the herd of Mr. Taylor, of Cranford, whose sale some months later of milking Short Horns you refer to.

Other herds of beef and milking strains, but less noted, were inspected by me, but as two of these are certainly conducted for profit—Lord Rothschild's and Mr. Taylor's—and as they represent the class, respectively of land owner and tenant farmer, I need not enumerate further as to my opportunities for observation. The one fact that stood out prominently as the idea dominant with the individual breeder was that all of the great establishments specialized, and that those developing beef cattle strove for that object

alone, in many instances using other cows to make up for the paucity of milk of the fleshy parent, and on the other hand, the milch herds rearing their calves on skimmed milk for milking purposes; and that in the sporadic cases, where beef and milk were attempted to be combined, better results would have been attained had one object alone been essayed.

In reply to comments made along this line of rather an inquiring character, so great an expert, both of Short Horn and of Jersey cattle as Mr. John Thornton, of London, whose portrait is about to be presented to him by the Short Horn Society for services rendered the breed, sagely remarked, that one so interested must from an economic standpoint choose the field for his proposed operations and then follow, either into the production of milk or beef. That as the capacity for the production of milk is increased, the power to make marketable flesh is diminished, and vice versa; and so far as I could ascertain, this opinion voices that of the best and most accomplished cattlemen of England.

So much for the "dual purpose" animal. I shall not discuss the merits of the Short Horn in the dairy. All pure breeds have good points. It may be noted, however, in connection with this dual purpose subject that the milking Short Horn scarcely seems to furnish what may be called the "Farmer's cow," as we would understand the term; for it is not usually a good rustler, under adverse circumstances, nor does it seem to be improved from a constitutional standpoint by development along dairy lines. Of course, as a beef producer, the Short Horn is unexcelled.

What, to my mind, is really in the contemplation of English breeders is this question: *After all has been said and done, has not too much attention been paid to the production of a beef type, when a distinctly milking strain would at the same cost have produced threefold the profit?*

For some years Lord Rothschild has evidently been of the latter opinion, and with the aid of his very able assistant, Mr. Richardson Carr, he has done much to lead the advanced thought of that country, to a breaking away from what had almost become a religion—the breeding of Short Horns as distinctly fat cattle. His beautiful home at Tring Park, alike the Mecca for financier and lover of nature, has been devoted to the upbuilding of two great dairy herds to a successful financial basis, and the yearly milking competitions at the show which he has fostered has done knightly service in the determination of this question.

The relative value of beef and dairy products to

the farmer is well set forth in a recent number of the "Live Stock Journal," of London (the leading British breeder's journal), by a distinguished writer, when he says: "A gallon of milk is worth as much as a pound of beef in summer, and a pound and one-half in winter. Three gallons of milk would be produced at the same cost as one pound of beef, so far as actual cost of food is concerned. That the only department of farming that could in England be said to have paid in the past twenty-five years was dairying, there being but one condition of success—the possession of a good class of dairy cows."

The lesson, then, that it seems to the writer of this communication which should be brought home to our farmers is, that they should look deeper into the question whether they cannot more profitably, through the introduction of co-operative creameries, or other means, handle the strictly dairy animal, rather than devote their energies to the fattening of cattle, the market price for which is no longer subject to logical calculation, but rather the creature of monopolistic dictation.

Should one look with favor upon these ideas, he would but be following in the footsteps of the thrifty and prosperous farmers of the Eastern and Middle States, whose sale of milk, production of cream, manufacture of butter and cheese, with the natural incidents to dairying, the fattening of hogs, and the rearing of poultry, have added many millions to the wealth of those sections.

One word further: It seems to me that there is a failure to appreciate to the fullest extent two cardinal principles of success: First, that where it is possible, one should breed only the best pure bred animals obtainable; and secondly, that there must be some means found, such as State and local agricultural shows, to form the basis in Virginia of fair comparison and honest rivalry between a like breed and breeders.

As to the first, it is passing strange that a people who have been the conservators of the thoroughbred horse for many generations should be forgetful of the fact that the same idea of breeding, which, when applied to the horse, means the safe negotiation of the stiffest of hunting countries, when applied to the lower domestic animals, means the acute and accurate development along the productive lines desired. Lowly and homely as such virtues of breeding may seem to be, they are, after all, great factors in the accumulation and development of a nation's wealth.

The best illustration that I have had of the value to the farmer—not as a rich man's fancy, but as a poor man's business, of the pure bred was had upon a

recent trip taken by me in the company of a well-known cattle fancier, to Massachusetts.

We journeyed to a spot high among the bleakest of the New England mountains to inspect a pure bred herd, owned by a small farmer, who, twenty-five years ago, had travelled in his overalls to Pennsylvania, and later to the Massachusetts coast, and had secured a few registered cows. He had no bull, and was compelled to drive his cows twenty-five miles to be bred. He had tended his little herd and peddled his butter in the market, a trip of fourteen miles; he made as his herd increased repeated sales, and had lived to see the day when, without either the proximity of a great market, such as that of Mr. Taylor at Cranford, England, nor a beautiful catalogue of sale setting forth in enticing form the long line of ancestry of Middlesex cattle, men of purpose travelled days to visit his Guernseys, and eagerly bought such of his herd as he would part with at about the same average price per head as those obtained for the Short Horns in England—the sale that has been made the subject of a leading article in your valued journal, and also in the "Breeder's Gazette."

Had this man's cattle been grades, they would have been possibly worth thirty-five dollars per head at his remote place. Such, then, has been the reward to persevering effort to establish a pedigreed herd by a small farmer.

As to the value of agricultural shows, although they may have been tried, and may have been abandoned, they are necessary to development, and are always to be found in communities where marked success is attendant upon effort along agricultural lines. They should by all means be encouraged in Virginia in particular, and in the South in general.

The people of this community are, to my mind, among the most advanced in their ideas and methods of agriculture in the South; and this section of the State, with Washington and Baltimore so near at hand, is peculiarly adapted to the development of a great dairy industry; so with a general introduction of pure breeds of dairy cattle, and of swine, I shall hopefully await the time when energy directed along the lines of least resistance shall make blossom the fruitful fields of beautiful Loudoun.

WESTMORELAND DAVIS.

Morven Park, Leesburg, Va.

MILK FEVER.

(Continued from last month.)

The accompanying cut shows the appliance now in use at the Veterinary Department of the Virginia Polytechnic Institute Experiment Station for admin-

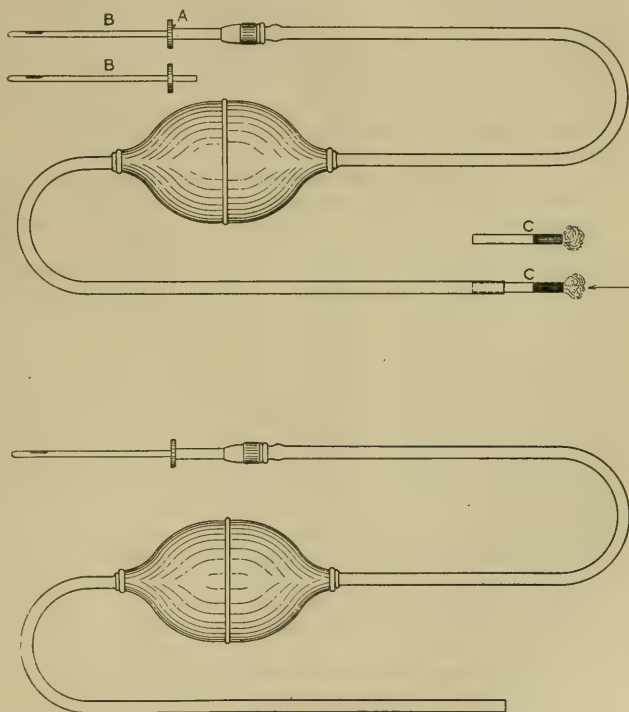
istering this treatment, and in the writer's opinion it has the most advantages, with fewer drawbacks than any yet devised, either there or elsewhere, and is one which can be as safely employed by the layman as the most experienced veterinarian, provided instructions are closely observed and followed. The accompanying cut represents an ordinary bulb syringe of the best quality, the tubing of which is sufficiently large to admit of an ordinary Faber lead pencil. This size is preferable to the small tubes. Inserted into the hard rubber pipe at A is a medium-sized milking tube, which is pushed home sufficiently far to be air-tight at the point of union. (See cut.)

Figure B represents an ordinary milking tube, this style being preferable. No objection can be raised to the ringed style, the rings being easily removed to admit of deeper insertion into the hard rubber pipe.

Figure C represents a piece of quarter-inch glass tubing from $1\frac{1}{2}$ to 2 inches long, which is inserted into the rubber pipe, the darkened end representing a plug of sterilized absorbent cotton inserted, through which the air must pass, and which effectually robs it of all contamination. No objection, however, can be raised to inserting the cotton into the end of the soft rubber pipe, in case the proper tubing cannot be obtained.

Technique of the Operation.—When the patient is discovered in a comatose or semi-comatose condition, and is unable to rise or even control her action, but remains in whatever position she may be placed, no time must be lost in placing her in as natural a position as possible—viz., propped up on her breast bone with her head drawn round on her side (see cut). She can best be kept in this position by sacks filled with straw or hay, sufficient of which should be provided to prevent injury to her head and horns, if semi-comatose, for in this condition she frequently throws her head violently around in her delirious efforts. Attention must now be directed to her udder, with as little delay as possible. See that her position is not injurious to that organ, which must be raised off the ground and clean cloths placed under it. All milk must now be removed and the teats

thoroughly washed with a 2 per cent. creoline or carbolic acid solution. Where it appears desirous to employ the Schmidt treatment in conjunction with the filtered air (as it is in all violent cases which occur in 24 hours or less after calving), two drachms of potassium iodide is dissolved in one quart of warm water (blood heat) that has been previously boiled, one-fourth of which is to be pumped into each quarter of the udder through the instrument previously described, and which has been rendered absolutely clean by immersing and pumping through it the creoline or carbolic solution, as the case may be. The udder is next inflated with air, which is done as



INSTRUMENT BEST SUITED FOR ADMINISTERING TREATMENT.

Lower figure represents syringe for giving the Potassium Iodide solution.

Upper figure represents syringe equipped with air filtering attachment.

A, point of union between hard rubber pipe of syringe and milking tube.
C, piece of $\frac{1}{4}$ inch glass tubing, $1\frac{1}{2}$ to 2 inches long, with sterilized absorbent cotton inserted at entrance, through which the air must pass, and which robs it of infection.

follows: The syringe should be worked until the operator is satisfied that all moisture as far as possible has been removed. This can be done in from one to three minutes. At the entrance of the syringe a

small piece of glass tubing packed with sterilized absorbent cotton is inserted (see cut) tight enough so that all air passing is effectually filtered and yet not so tight as to impede its free passage. The tube B (disinfected and washed in boiled water) is again introduced into the teat and the quarter inflated to its fullest capacity, and so on until all have again been treated, the tube being disinfected and rinsed in boiled water after each teat has been treated. Kneading and rubbing the udder thoroughly assists the air and potassium solution in more rapid absorption by spreading it over a greater mucus surface. The cow must be kept in position and should have constant attendance until consciousness returns, which usually occurs in from two to twelve hours, and sometimes even less. After she rises very little further treatment is required beyond restricting the diet and milking at regular intervals to restore the function of the udder. Where recovery is delayed and indications of return to consciousness are wanting, the Schmidt injection should be repeated in about eight hours, air being introduced as soon and often as the udder is sufficiently slack to receive it. The increasing amount of milk in the udder may be regarded as a most favorable sign. After apparent recovery, it sometimes happens that the bowels are obstinately constipated from impaired peristaltic action of their muscular coats, due to deficient nerve force. This is to be relieved by a moderate dose of epsom salts, 1 to 1½ pounds, to which should be added one-half ounce of ginger and one drachm powdered *nux vomica*, the latter drug to be repeated in the same dose every eight hours for several days, and only the most easily digested and laxative diet allowed in restricted quantities, together with a liberal supply of pure spring water. *In no case is drenching admissible during the period of coma.* Successful and non-successful treatment usually hinges here, and drenches given at this time often prove fatal, or produce serious complications, which might have been avoided, and at best can be productive of little or no good, as the intestinal absorbents are in a state of extreme inactivity, and if the drenches actually escape doing injury to the patient, are not absorbed until recovery takes place and play no part whatever in bringing about that result. Some practitioners contend that the potassium iodide is superfluous when air or oxygen is freely employed, and while this is undoubtedly the case with many patients, in the writer's opinion the drug often hastens what would otherwise be a delayed recovery, the action of the drug being to stimulate the absorbent system and cause the more rapid expulsion of the poison from the system. If an opinion were ventured as to which should and which should not receive the potassium iodide solution, we would say that all cases occurring in less than twenty-four hours

after calving, or those upon which treatment had been delayed several hours from the commencement of the attack, should receive it, although mild cases yield readily to the air alone.

The following records of cases give a fair idea of the effectiveness of the treatment, and what may be looked for in similar cases:

Case No. 1.—Jersey cow, 6 years old; dropped calf on Tuesday afternoon; appeared normal until Wednesday at 4 P. M., when she developed unmistakable evidence of an attack of parturient paresis. Some delay was occasioned in getting a supply of boiled water, it being 5:30, when injection was given. By this time she was rapidly sinking into unconsciousness. The symptoms were checked in less than half an hour, and held so, and at 2 A. M. she rose to her feet, and made an uninterrupted recovery, returning to her full milking capacity on the third day—no udder complications whatever.

Case No. 2.—Shorthorn Jersey grade, five years; calved at 6 A. M., normal; at 6 P. M. was somewhat restless, and did not yield her usual flow of milk. Nothing was thought of this by the owner until next morning, when she was down and unable to rise and semi-conscious. Treatment was applied at 8:30. To the utter surprise of every one present she was on her feet and feeding at 11:30, or three hours after the first treatment; returned to her full flow of milk on second day, and made an uninterrupted recovery.

Case No. 3.—Grade, six years old; dropped calf Thursday afternoon. On Friday afternoon presented symptoms of illness, and at 4 P. M. went down, and was unable to rise; was made as comfortable as circumstances would permit, but was left alone for the night without further treatment than a dose of salts. Next morning was found by the owner perfectly helpless and apparently dead, except for her mechanical breathing. The writer was sent for, and reached the patient at 11:30 A. M., or upwards of twenty hours from time of collapse. Treatment was given with as little delay as possible, and results closely watched. In two hours the pulse, which had been previously imperceptible, was showing some strength, and at 4 o'clock she was able to hold her head up and returned to consciousness. Heart and nerve stimulants were given at regular intervals, and next morning she rose and walked out into the adjoining lot and ate a little grass. That evening, however, she relapsed into unconsciousness and died before morning without further treatment. Had this case been treated early in the attack, or had the case been at the hospital and the udder treatment renewed on Sunday morning and evening, in the writer's opinion a good recovery could have been obtained.

Case No. 4.—Guernsey cow, 7 years old and very fat; calved Tuesday during the day. On Wednesday at 3:30 was found down and unconscious. The

writer reached the case and had treatment applied at 4:15, and although she was perfectly unconscious at that hour, at 5:30, or in one hour and fifteen minutes after treatment, she held her head up and fought flies and caressed her calf; rose to her feet at 10 P. M., and was chewing her cud the next morning when visited. This case returned to her milk promptly, and in less than a week was one of the heaviest producers in a herd of nearly a hundred.

In the last case a very slight swelling recurred in the right fore quarter of her udder, due probably to injury through lying on it, but which disappeared after a few applications of camphorated liniment.

Other cases might be cited had their records been kept, but the above indicates very clearly what may be expected under similar circumstances.

Summary.—Be sure your case is one of parturient paresis. Place her in the position indicated (see cut), propped up on her breast bone. Milk out the udder clean, and protect it from the ground with clean cloths. Disinfect the teats, hands and syringe. Dissolve two drachms potassium iodide in one quart warm water (blood heat) that has been previously boiled, one-fourth of which is now to be injected into one quarter. The tube being withdrawn from the teat is now again dipped into the creoline or carbolic solution and rinsed off with boiled water, is inserted into the second, third and fourth teats under the same antiseptic precautions as the first. The syringe is now allowed a few minutes to dry, which can be hastened by pumping air through it. The inlet to the syringe now packed with a plug of sterilized absorbent cotton and again pumped through it a few times, everything is now ready for the second portion of the operation—viz., the introduction of air into the udder. Again the tube, disinfected and washed, is introduced into the first teat, an assistant manipulates the rubber ball until the quarter is fully inflated. The tube being withdrawn, the teat is now secured by clean tape to prevent the escape of air. All teats are treated in exactly the same way with the same disinfecting and rinsing of the tube between injections. Keep the cow in as comfortable and protected a position as possible. If in two hours she has not risen to her feet or is showing symptoms of returning consciousness, and the udder is less tense, more air is to be introduced under precisely the same antiseptic precautions. If, after eight hours she still remains comatose, the potassium iodide injection should be repeated. If after she has risen to her feet her bowels remain inactive a dose of salts combined with ginger and nux vomica may be given with good results. The diet should be restricted for a few days, usually three, and a complete recovery may be looked for. Careful watching for the first twenty-four hours after she rises is advisable that any relapse may be noticed early and the treatment renewed

without delay. Make your antiseptic precautions a strong feature of the whole procedure, remembering that infection introduced into the udder will not necessarily impede the action of the treatment so far as parturient paresis is concerned, but will be followed by disastrous consequences (infective inflammation) after apparent recovery. *And in no case attempt drenching during the comatose or semi-comatose period.*

Prevention of the Disease.—Since it is known from observation that only the best milkers when in high condition are subjects of this disease, much can be done in the way of preventing its appearance or at least modifying its severity. The first condition—viz: great lacteal development being the highest aim of the practical dairyman, it would be impractical to in any way check that quality beyond for a short period, as without it, it were foolish to attempt to direct a successful dairy business. This is impossible with any but the highest producers. This being so the dairyman's attention should be directed towards the cow's condition just previous to and at the parturient season. A cow in high condition and heavy milker should be compelled to take regular daily exercise previous to calving, and her food should be curtailed and of a laxative character. It is also a safe practice to give a purgative of epsom salts, one to one and one-half pounds, a few days previous to calving, and again a smaller or similar dose a few hours following that act, and the amount of rich food should be restricted for a few days until the dangerous period has passed. English writers upon the subject contend that cows which have been milked clean immediately and for three days after calving are more subject to milk fever and claim to have lessened to a very great extent the number of cases by only partially milking out the udder for several days after calving. The writer cannot account for such results, but they appear to be proven. Granting such to be the case, there is hope that more light may yet be looked for as to the true character of the disease, and following along that line with judgment can do no harm.

Appliances for giving proper treatment can be obtained from the surgical instrument dealers or can be made by obtaining a milking tube as per cut and a bulb syringe of the best quality having large size tubing, and a supply of absorbent cotton and creoline. Milking tubes may be obtained through any good drug store, or from surgical instrument dealers, such as Haussmann & Dunn or Sharp & Smith, Chicago, Ill.

JOHN SPENCER,

Virginia Polytechnic Institute, Blacksburg, Va.

In writing to advertisers, mention PLANTER.



PRINCE BARBARA. 68904, SIRE PRINCE ITO, DAM BARBARA OF WOODLAWN.

This great son of the Highland Champion \$9,100 bull Prince Ito is one of the prizes Meyer & Son, whose advertisement will be found in this issue, selected from the famous Woodlawn herd. This son of the great champion is to head the herd for a few years. Prince Barbara is a half brother to the show steer Kid Eclipsor, who has won many prizes in the show rings and is from as fine a cow as can be found in the breed. Barbara of Woodlawn, his mother, has never produced a calf which sold for less than \$500.

ANGORA GOATS IN VIRGINIA.

Editor Southern Planter:

The Angora kid crop was very fine this year. Although we still have some very young kids, yet I think there will be no trouble raising 100 per cent. kid increase. The Angora goat business is still booming, and on the increase every day. A letter from New Mexico, where I was last year, says: "I have no Angora does for sale at all. Already 7,000 kid does booked for shipment, but cannot get hold of them for love or money. Am selling and have sold buck kids for \$50 each right along, and have almost run out. Can't pick up a carload of does in this country." The above is from one of the largest breeders in the Southwest.

I lost thirteen kids last February in the big snow. I was in Richmond, and had no one to look after them, and they were frozen to death as soon as they came. Still expect to raise 100 per cent. increase. Mohair has been low this year, but is climbing a bit

now. John Fulton, of the Angora Association, says he has made some very good sales in Boston. We in Virginia have the greatest opportunity to turn our worthless and grown up lands to account that we ever had by raising goats and reaping the rich harvest of the silver fleeces after they reap the harvest of leaves, brush and weeds. "Angora goats" is the solution of the labor question, as they clean up the filth and weeds and return us rich, well fertilized land covered with a magnificent stand of blue grass. They require very little attention except in kidding season, and return us handsome profits. Cheap sheds and a three and one-half foot fence will solve the housing and pasturage question, and plenty of brush and a regular salting the feed question.

MANN S. VALENTINE.

Goochland Co., Va.

SHEEP HUSBANDRY IN ENGLAND.

Editor Southern Planter:

In a late issue a correspondent says he fails to understand why the English farmer succeeds with a large flock of sheep. As I was in the 40's at an Agricultural College and sheep farm for two years, and later two years more on a Wiltshire Down sheep farm, I can perhaps tell him why. The rotation in both cases was the four course system, Swedes (rutabagas), barley, grass, wheat. The Swedes were drilled with half a ton of ground bone per acre. When ready, the sheep were folded on them, being placed each day on such an area enclosed with hurdles as they could eat in the 24 hours, and the crop was thus disposed of during the winter, then barley sown in the spring followed with Italian rye grass, or rye grass and

clover, seeded with the barley. The first cutting of the grass was made into hay, and the aftermath eaten off by the sheep, then followed wheat, and between the wheat and the turnips a catch crop of crimson clover was sown, which was eaten down by the sheep. Thus two crops were sold direct, and three as mutton and wool. Under this system the land was holding its fertility, although not a deep soil, and underlaid by clean chalk. As well as I can remember, the average crop of barley was forty bushels per acre, and wheat twenty-eight. The lambs (Hampshire Down) were dropped in February and sold in August. The last lot I saw sold fetched 27 shillings (about \$6.75) each, 200 of them. This was on the Wiltshire farm, which consisted of 700 acres, 200 in irrigated meadow and permanent pasture and 500 in arable. The rent for the whole was £1 (\$5) per acre. The rule is, a sheep to an acre for the arable land. I hope I have thrown some little light on the subject.

Charles City Co., Va.

W. R. ATKINSON.

HEREFORD BREEDERS' ASSOCIATION.

The success following the organization of the breeders of Hereford cattle in other States has suggested the desirability of the Hereford breeders in the State of Virginia organizing themselves into an association for the purpose of forwarding the interests of that great beef breed by conducting joint sales at desirable places in the State, and by circulating literature and making generally known the great value of the Hereford sire as a producer of the finest beef in the world.

It has been proposed by several breeders that a general meeting of all the Hereford breeders in the State and those interested in Herefords, be held during Roanoke Fair, the last week in September, and it is earnestly desired that all who are interested in the furtherance of Hereford interests should lend their aid. Those expecting to be present will kindly send their names and address to Edward G. Butler, Berryville, Va., so they may be notified as to the evening appointed for the meeting.

BIG PRICES FOR YORKSHIRE HOGS.

Editor Southern Planter:

At a sale recently held at Hamilton, Ontario, 74 head of large Yorkshires were sold at an average of \$85.60. Several sows in farrow sold at from \$350 to \$370 each. The rapidity with which large Yorkshires have forced their way to the front as a profit-

able bacon hog, has been nothing less than marvellous. Since the introduction of this breed into bacon producing districts of Canada the hog business of that country has been revolutionized, and in ten years the value of bacon and hams exported from the Dominion has increased from a little over a half million to more than \$14,000,000.

Throughout Canada and at a number of the Experiment Stations in the United States the large Yorkshire has shown by actual test, both in the feeding pen and upon the butcher's block, to be superior to any other breed. The lard hog has seen its day, and everywhere there is a cry for the bacon hog. The large Yorkshire meets the requirements of the packer. They have been bred to meet these requirements and have not been long enough in the United States to be ruined by the methods of feeding that are in vogue here, and which have wellnigh ruined nearly every breed of hogs in use in this country.

That there is a demand on the part of the packers for a hog with the characteristics of the large Yorkshires, is shown by the fact that the large packing concern of Swift & Co., of Chicago, have arranged with the Illinois State Board of Agriculture for a special swine class at the coming Illinois State Fair, the entries to be judged strictly from a packer's standpoint.

The large Yorkshire supplies a carcass with a large proportion of lean meat, and they will grow rapidly, and can be ripened for market at any age, thus regulating the size of the carcass. The sows are immensely prolific, great milkers and excellent mothers. To be able to raise the best bacon, our farmers must use a bacon breed.

A. M. BOWMAN.

Roanoke Co., Va.

TO TELL THE AGES OF PIGS.

Pigs having their corner permanent incisors cut will be considered as exceeding six months.

Pigs having their permanent tusks more than half up will be considered as exceeding nine months.

Pigs having their central permanent incisors up and any of the first three permanent molars cut will be considered as exceeding 12 months.

Pigs having their lateral temporary incisors shed and the permanent appearing will be considered as exceeding 15 months.

Pigs having their lateral permanent incisors fully up will be considered as exceeding 18 months.

When writing to advertisers mention Planter.

The Poultry Yard.

MORE ABOUT GAPES.

THE HALSTED THEORY AND TREATMENT.

As early as 1865, Mr. A. M. Halsted, of Rye, N. Y., began to experiment as to how to get rid of the dire scourge of gapes, that was destroying so much of the poultry through the Eastern States. In 1880-1881, there was all over the world a fearful infliction of gapes. Records tell more of this in England than here. At that time, what is known as the Halsted theory, was used in both New York State and in England, with good results.

Since that time there has been little attention paid to this. When Mr. Halsted took up this matter there was little scientific or journalistic aid extended to the poultryman. He was compelled to work out his theories and ideas, and he began working to prevent the coming of the gapes, rather than the curing of them. Mr. Halsted discovered that there was a large louse, or as he calls it, tick, found on the head and about the throat of many of the young chicks when hatched. In 1865 he took a brood of fifteen so troubled and picked off with his fingers all of these head lice or ticks, and continued to examine this brood every day or two, until they were six weeks old. Not one of this brood was troubled with the gapes the entire summer, while many from other broods, kept in the same lawn and runways, died of the disease that season.

This led Mr. Halsted to believe that the gapes were brought by the presence of these ticks or head lice. He made a more thorough test the following year, but to aid in this test, he made several kinds of ointment, with which he anointed the head and throat of the young chicks when hatched. This was so satisfactory to him that the following year he took thirty chicks and thoroughly anointed the heads and throats of one-half of them, allowing the other half to go without treatment. The result was that not one of this brood that had been so anointed had the gapes, while all but one of the balance of the same brood died of the disease.

The following year he carried this out more extensively, and had a number of neighbors near him use the same treatment. The general result was very satisfactory, except where the ointment was carelessly or too profusely used with the result that a number of the chicks were killed by mercurial poisoning.

A poultryman of thirty years' experience now living near New York, stated to the writer early in June that he had been using the Halsted remedy for over twenty-five years, and that he had never had a single case of gapes since he began using it. Each season it is carefully used, and he stated that he should con-

tinue to use it as long as he was in the poultry business, or until something satisfied him that it was not a certain preventive.

Mr. Halsted's theory was, that since poultry never showed any inclination to perspiration, the lice or ticks upon their bodies were compelled to come to the nostril or the mouth of the young chicks for moisture or drink; and that they laid their eggs in the nostrils, where they would hatch, and the worm would find its way through the connecting passage of the nostril to the wind-pipe, where they grew and caused the trouble. To prevent the possibility of this, he compounded the following ointment: mercurial ointment, 1 ounce; pure lard, 2 ounces; flour of sulphur, $\frac{1}{2}$ ounce; crude petroleum, $\frac{1}{2}$ ounce.

This should be applied to the head of the chick while it is in a semi-liquid state, and may also be applied to the throat as well, when ticks are present. This must be sparingly applied, or the chicks may be poisoned with the mercury. It will cost very little for those who have chicks which are troubled with gapes, to make use of this remedy, but it should be borne in mind that the ointment must be applied to the head and to the throat, if needed, when they are 24 hours old; that it must be very carefully used, so as to not cause mercurial poisoning. Use enough to kill all the ticks, but not enough to smear and grease the head and throat unnecessarily.

There is another manner of curing gapes in this country, and that is to place the ailing chicks in a box and stretch a cheese-cloth over them, and dust some lime down upon the heads of the young chicks. There is a better preparation than this made in England, though we shall change it a little, as they are using arsenic, and we cannot advise the use of it knowing it has made trouble; powdered quicklime, one pound; powdered sulphur, one-half pound; tinct. asafetida, one ounce; oil of thyme, one ounce. Thoroughly mix together and to keep it dry and in good condition, put into a glass-stoppered bottle. When needed, dust on the chicks. Or a better way, is to put a tablespoonful or two into a saucer, and with a rubber pipe and your mouth or a pair of bellows blow a quick current of air into the saucer, so as to fill the air of the box or coop thoroughly full of this powder. It is stated that this will get into the nostrils and wind pipe of the ailing chicks and destroy the gape worm.—*The Feather.*

You could not do us a greater kindness, in writing to advertisers, than to say you saw their ad. in THE PLANTER.

The Horse.

NOTES.

The oldest agricultural journal in the country, and probably the most popular and widely read is the *SOUTHERN PLANTER*, and truly, too, its circulation seems to reach the uttermost ends of the earth, as evidenced in part at least by the following letter from our New Zealand friend, Mr. Ivar C. Asplund, who saw my card in the *SOUTHERN PLANTER* and responded:

Postmarks show that the communication took five weeks to reach this city. Here is an exact copy of the letter:

11 July, 1904.

Canley Park,

W. J. Carter, Esq.

P. O. Box 929,

Richmond,

Virginia.

U. S. A.

Rahotu,

Taranaki,

N. Zealand.

Dear Sir:

I beg the favor of copies of the journals—Kentucky Stock Farm and Breeder and Sportsman—which I believe you represent.

Thanking you in pleasurable anticipation,

Believe me,

Yours truly,

IVAR C. ASPLUND.

With covers of scarlet, lettered in black and gold, the print being red and black, and the headings and footnotes in red, which is the makeup of the catalogue and prize list of the fourth annual exhibition of the Richmond Horse Show Association, the publication is by odds the handsomest thing of the kind seen this season. In addition to the dates, October 18th, 19th, 20th, 21st and 22d, the pamphlet is filled with interesting information from cover to cover. The classes listed number fifty-one and prizes are offered for harness horses, hunters, jumpers, park hacks, saddle horses and ponies. The prizes aggregate over \$9,000, and unless stated to the contrary, the money divisions in each class are \$100 for first, \$50 for second, and \$25 for third. While new classes and special features have been introduced already others will be added and on the whole we look forward to the greatest show ever seen in the South. The class for harness horses will, of course, attract much attention, but seeing that Virginia is the great Southern stamping ground for hunters and jumpers, excelling, with the possible exception of Canada, any other portion of America in the production of such horses, a rare treat may be looked for in that direction in the way of the great fields competing on the tan bark. One of the new features likely to interest the masses will be the introduction of hunt club teams

and hounds, while a perusal of the catalogue will disclose others fully in keeping.

Lucky Clover, the champion steeplechase horse of 1903, has, according to reports, run his last race, having received an injury in the running of the Beverick steeplechase at Saratoga on the 6th instant, which necessitates his permanent retirement. This is the third noted jumper owned by "Mr. Chamblet," E. C. Hoper, of Boston, that has gone amiss just as that gentleman was planning an English campaign. Lucky Clover is a bay gelding, foaled 1897, by Flatlands, dam Lucky Clover, by Bersan. He was bred at Fort Chiswell Stud Farm, Max Meadows, Va. He was a big winner in some of the most important events of the season.

In Red Feather, the Virginia bred mare, four years old, by St. Carolus, dam, a trotting mare, J. C. Poulterer, of Philadelphia, has the prospect for a great jumper; in fact, her performances would indicate that she is likely to reach championship form. The daughter of St. Carolus is 16 hands high, and well formed. An offer of \$2,500 has been declined for this mare. Red Feather's sire, St. Carolus, is owned by Courtland H. Smith, Hampton Farm, Alexandria, Va., where he formerly stood, but for a couple of seasons past the son of imp. St. Blaise has been in the stud at Warrenton, Va.

Joseph Lassiter, of the Richmond Horse Bazaar, this city, has sold to L. L. Wallace, Amelia, Va., the chestnut colt Prince Henry, by Patronage, dam Hazel Eye, by Sir Walter, Jr., 2:18½, sire of the great race mare Alcidalia, 2:10¼. This colt, now in his two year old form, stands sixteen hands in height, and with age and development promises to make a grand looking horse. He will be placed in the stud by Mr. Wallace, and should do much toward improving the stock of the section to which he has been taken. Patronage, the sire of this colt, got the famous Alix, 2:03¾, and is a full brother to the noted sires Patron, 2:14¼, and Prodigal, 2:16.

Apparently not for a decade past has such interest been taken in breeding as during the present one, and those having control of desirable stallions seem to be well pleased with the patronage received. Certainly this applies to Kelly, 2:27, the son of Electioneer and Esther, whose court has been visited already by over seventy matrons, and there are others to follow. A number of the best bred mares in the South have been mated with this brother to the famous Expressive, 3, 2:12½, some with fast records and others by prominent sires out of great producing dams.

Miscellaneous.

THE LABOR DIFFICULTY.

Editor Southern Planter:

I have just finished reading the July issue of the *PLANTER*. It, with the *Farm Journal*, *Farm and Home*, and the *Montreal Herald and Star*, which is a weekly journal, furnishes me with all the agricultural pabulum necessary for my calling. My sixty-five years' experience goes for nothing. After reading the article of the Senator of the Eighteenth District, I felt like quoting one of Randolph's philippics on a certain occasion when a representative of Maryland had made a speech in the House. If we were both present at an agricultural Institute I should be most likely to fire it off. Suffice it to say I differ with him on the labor question, and I have had some personal experience. Between the years 1840 and 1850 I lived in New Jersey. Then we could get the Irish and German immigrants right from the ship, superior to any foreigner at the present time, at a low rate of wages. At the same time there were two negro villages of 400 or more inhabitants each near by. We had thus a choice of good help. I worked in the field with these people, and failed to recognize any superiority of the whites over the blacks. In 1850 I bought in Virginia. Then the class of poorer white men had to come in competition with slave labor, to which a certain degradation attached. I hired the slave labor and made it pay; indeed, one of the most productive farms in this section was owned and carried on by a slave owner. Since then there has been an entire revolution in the labor problem, not confined to Virginia or any other section. Now, the question is, have we the brains or inclination to adjust ourselves to the present situation? If not, the Department of Agriculture is powerless to afford any relief. It is not necessary to offer any bonus to the negro to vacate. He does not stand on the order of his going either, and there is where the shoe pinches. He goes at once. We have to contend with that very difficulty. When a "darkie" can go to the brick-yard and get \$1.50 per day for ten hours' work, he ought not to be blamed if he chooses that rather than fourteen hours a day at 75 cents or a dollar. The white man would be a dolt that wouldn't do the same thing. Some of our dairymen got on their metal and were not going to stand any foolishness. One sent to New York and got a crew of Germans, who did tolerably well for two or three months, and then abruptly left just in

harvest time. Another brought in some Poles. He had a picnic. Since the degradation of white labor competing with slaves has been removed we have some most excellent white natives, who are willing to work, but there are not enough to go round; besides, when a white man becomes intelligent enough to manage the present farm machinery he wants to set up for himself. Enough on the labor question. As I have read the several articles from the *Norfolk land agent*, it surprises me that he should content himself in his present position. One thousand dollars an acre would pay better than any commission business I know of. I don't doubt but that such results are attainable, but if they were the rule there would not long remain any land for sale in that vicinity. I remember some years ago one of my neighbors set out one-fourth of an acre in strawberries. He cleared over \$300 the first year. He put in an acre and did not get so much as he did on his first venture, and several others who caught the mania ran the mowing machine over their beds, as the grass was worth more than the berries. Since then they have had another boom and have again flattened out. One man who has sold \$1,000 worth did not realize \$50 this year. I consider such articles misleading, and as of no practical benefit to our profession. Our Farmer's Club has been regaled with the wonderful results attained by a certain Mr. Dietrich, a Lutheran minister near Philadelphia, who on 13 acres of land kept 18 head of Jersey cows, besides some young stock. No credit was given to a faithful man who did all the work. Another matter that has interested us was the wonderful statements in regard to Mr. Clark's success in raising grass, when it appears by an advertisement in your journal that he is not dependent on that source for his revenue. It reminds me of what our landlord in New Jersey said to my father: "John, I think a good bank account is a good thing to have in farming," which, unfortunately, few of us possess. It is true we are confronted by conditions which must be overcome by theories proven by facts, remembering that scientific theories are one thing, and the theories of scientists another.

In conclusion, there is a phase of our situation that has concerned me considerably, that is, Can a young man and his wife acquire a competency farming at the present day owning a hundred acres without any other capital? I think I could answer both affirmatively and negatively.

E. E. MASON.

Fairfax Co., Va.

NOTES FROM TIDEWATER, VA.

Editor Southern Planter:

The Government weather report for July, 1904, is on our table, and shows as follows: The highest thermometer was on the 6th and 19th, when the mercury reached 94, the warmest weather for the month.

The average temperature for the month was 77 degrees; while the average for the month of July for the past thirty-four years has been 79. The rainfall for the month of July was 6.56 inches, falling on twelve different days—viz., on the 1st, 2d, 6th, 8th, 10th, 12th, 17th, 20th, 22d, 23d, 24th, 25th, pretty well distributed. Greatest amount of rain in any period of twenty-four hours was 1.34, on the 12th.

The average rainfall for the month of July for the past thirty-four years has been 5.83 inches. This rainfall coming as it does in about twelve showers, well and evenly distributed throughout the month, does not permit our meadows or pastures to get bald-headed in midsummer, because August comes right along with about the same record as regards temperature and rainfall.

In fact, July and August give us fully as much rain as any other three consecutive months in the year. At the same time the temperature is quite moderate.* The highest thermometer being 94 and the lowest 65; and the rainfall nearly 6 inches on an average for thirty-four years, one can see that July and August are great growing months.

July, notwithstanding that the rain fell on twelve different days, gave us twenty-three pleasant and eight cloudy days. This is accounted for from the fact that the rain falls more frequently between 6 P. M. and midnight than at any other portion of the twenty-four hours.

Everything in the ground is just jumping, weeds, grass and all. Those farmers who laid by their corn the last days in June or the first week in July and sowed the corn fields with cow peas may look with equanimity upon the growing weather as the peas take the ground and keep down the rank growth of weeds and grass, which otherwise is sure to take the corn fields in July and August.

If a person be in doubt as to grass growing in Eastern Virginia, all he need do is to examine the corn fields of this section in August. The nice and equable adjustment of warmth and moisture is such that everything in the ground, with roots to it, makes a very luxuriant growth. It, therefore stands to reason that the farmer should keep his land fully occupied and covered with useful crops for the market or for his stock, rather than to let the weeds and grass

come in, as they surely will do, unless a crop of peas or some similar crop be sown between the corn rows at time of last cultivation of the corn.

The steady movement of labor, however, from the farms of the State to the cities operates against the farmers, and they have suffered thereby. The remedy is more stock, more stock crops and less special crops. The special crops of our State, such as tobacco, peanuts, fruits and vegetables, etc., require a great amount of hand labor while the stock crops may be and can be and should be handled largely by improved machinery and improved methods, thus enabling fewer hands to cover more territory and secure better results. What a time for turnips in July and August. How such growing weather would delight the heart of the Northern, Western or Eastern stock men.

How the thoroughgoing English farmer would appreciate such weather for his root crops. How such weather would tickle the German farmer, who grows the root crops heavily, and who also grows silage crop from seed purchased of one of our Norfolk county truckers, who raises from 30,000 to 50,000 bushels of the finest of silage corn annually—that is to say, raises that much corn, which he ships to Europe, where it is planted for silage purpose.

All over the East, North and West, July and August are hot, dry months, with warm nights—too warm frequently for comfortable sleeping. The pastures give out and the meadows become sere and brown, and there is a great shrinkage of milk unless the farmer has provided for this dry weather by growing a green crop to cut and feed to his milk stock, thus enabling him to tide over the dry spell.

The growth of grass in pasture and meadow here is greater in July and August than in May and June. Our farmers must turn their attention more and more to more and better farm machinery. Improved implements, whereby one man can do the work of three or four, must be used.

What is to become of our State when all the young white men have migrated to the cities, and when all the colored labor has likewise gone into the commercial centres, where they find employment in gangs or squads or bunches, as the colored people like to work in droves, so that they can laugh and joke and shout and sing at their work?

The upshot of the whole matter is this. Our farmers must pay a greater amount of attention from this time forward to choice stock of all kinds, excepting perhaps horses, as we do not believe it will pay to raise horses in Eastern Virginia, but when it

comes to sheep, cattle, hogs and poultry, there is no section in the Union where such stock will pay as well as here.

For every laborer who leaves the farm for the city the farmer should manage to place two or more head of good stock. He should reduce the area of the crops grown or cultivated largely by hand and replace them with crops cultivated by machinery. This will not only improve the farm, but will also improve the farmer's finances.

There is a scarcity of labor in the agricultural districts of the South. There is also a scarcity of stock.

The prosperity of the South demands that our larger farms be subdivided and sold to men who will devote them to stock and stock crops. Our State should take active steps to promote such a movement. An intelligent, practical class of immigration is needed to speedily and rapidly and surely remedy the "condition" of things, for as Grover said: "It is a condition which confronts us and not a theory."

A. JEFFERS.

THE WHEAT SITUATION.

Europe is the largest buyer of American wheat and flour. Its requirements, in addition to the home crop, range from 500 to 550 million bushels annually. This was supplied last year by Russia, India, Argentina, Australasia and America, as follows:

Countries.	1903-4—bush.	1902-3—bush.
America	151,128,000	244,823,000
Russia	142,938,000	132,664,000
Danubian	57,432,000	57,776,000
India	55,864,000	24,183,000
Argentina	83,264,000	49,424,000
Australasia	26,832,000	.....
Austria-Hungary	5,278,000	2,704,000
Chili-North Africa	11,276,000	15,924,000
Totals	534,012,000	527,498,000

The European crop of wheat this year is estimated to be 146,000,000 bushels less than last year; the 1903 crop having been 1,796,311,000 bushels, whereas the 1904 crop is estimated to be 1,650,000,000 bushels.

The Russian winter wheat crop is a failure, and their spring wheat crop has had a very unfavorable start. The Austria-Hungary crop is 25 per cent. short; the Italian, 15 per cent., and the Spanish crop, 15 per cent.; the Roumanian crop is 40 per cent. short, and the United Kingdom, which last year raised 48,000,000 bushels, will, this year, raise less than 42,000,000 bushels. At present Russia and India are furnishing 70 per cent. of Europe's requirements. Indian shippers are holding back their grain, awaiting higher prices, realizing the requirements of Europe will become urgent later on. The movement of wheat from Russia is greatly curtailed

on account of the government using nearly all of the freight cars to transport troops.

WHEAT CROP OF UNITED STATES—COMPARISON FOR FOUR YEARS.

	Crop '01.	Crop '02.	Crop '03.	Crop '04.
On July 1.				
In farmers' hands	31,000,000	52,000,000	43,000,000	37,000,000
Visible supply	57,365,500	42,542,000	33,781,500	32,560,000
Total	88,365,500	94,542,000	76,781,500	69,560,000
Crop harvested	748,000,000	670,063,000	637,821,835	530,000,000
Total Available	836,365,500	764,605,000	714,603,335	599,560,000
Exports	234,000,000	202,906,000	119,441,719	.....
Seeding	72,000,000	72,000,000	76,000,000	.....
Domestic use	435,823,500	412,917,500	449,601,616	450,000,000
On hand end of crop ..	94,542,000	76,781,500	69,560,000	.....
	836,365,500	764,605,000	714,603,335	

Note 1.—To have the same quantity in farmers' hands and in visible supply on July 1, 1905, as on July 1, 1904, we have but 4,000,000 bushels available for export.

Note 2.—The smallest quantity of wheat left in the United States at the end of a crop was on July 1, 1898, when we had but 41,229,000 bushels, as follows: In farmers' hands, 16,000,000 bushels; in visible supplies, 25,229,000 bushels; total, 41,229,000 bushels. It was in May, 1898, when wheat sold at \$1.85 per bushel in Chicago.

Note 3.—Should our stocks on July 1, 1905, be depleted to the same extent as on July 1, 1898, when we had but 41,229,000 bushels, in all positions, our exports could not exceed 32,331,000 bushels.

Note 4.—With a maximum 32,331,000 bushels available for export, how are we to supply the European demands, which, with the shortage abroad, must be greater than last year, unless prices are advanced to a level which will curtail consumption, both here and abroad.

Europe's demands on the United States last year were 119,441,719 bushels, notwithstanding the fact that Russia, India, and Argentina were drawn upon as never before. The exports from the United States for a period of ten years are as follows:

Year.	Exports.	Our total crop.	Percentage Exported.
1904.	119,441,719	637,821,835	18.8
1903.	202,906,000	670,063,000	30.2
1902.	234,000,000	748,000,000	31.2
1901.	216,000,000	523,000,000	41.3
1900.	188,000,000	547,000,000	34.3
1899.	222,000,000	675,000,000	32.8
1898.	217,000,000	530,000,000	40.9
1897.	145,000,000	427,000,000	33.9
1896.	126,000,000	467,000,000	26.9
1895.	142,000,000	460,000,000	30.8

Note 5.—If we export 32,331,000 bushels out of the 1904 crop (estimated as above 530,000,000 bushels), the percentage exported will be 6.1 per cent.

THE

Southern Planter

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J. F. JACKSON,

Editor and General Manager.

B. MORGAN SHEPHERD,
Business Manager.

TERMS FOR ADVERTISING.

Rate card furnished on application.

TERMS FOR SUBSCRIPTION.

THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at 50c. per annum; all foreign countries and the city of Richmond, 75c.

WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known. Particulars of Experiments tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

NO ANONYMOUS communications or enquiries will receive attention.

REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

SUBSCRIBERS failing to receive their paper promptly and regularly, will confer a favor by reporting the fact at once.

Address THE SOUTHERN PLANTER,
RICHMOND, VA.

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PUBLISHER'S NOTES.

To Advertisers.

We wish to impress upon our advertisers the necessity of sending in all advertisements and matter pertaining to advertising, by the 25th of each month. If it can be sent before that date, so much the better for both of us. There is not a month that passes that we do not leave out somebody's ad. because of it reaching us too late.

Trial Subscriptions.

For 10 cents, coin or stamps, we will send the SOUTHERN PLANTER for three months as a trial subscription. As hundreds of our readers will be in attendance upon all sorts of picnics during this month, we would very much appreciate it, if they will bring this little offer to the notice of their friends. In this way, we will be enabled to get hold of a lot of non-reading farmers. Once we get them to reading, we are sure that we can help them as well as ourselves.

Elkton Stock Farm Sale.

In our last issue we ran a half page ad. of the Elkton Stock Farm's sale, which takes place on September 6th. In the first paragraph, under the head of "Pure Bred Registered Herefords," the types made us say "the pick of several farmers' herds," when it should have been *famous* herds. Any one acquainted with Hereford blood can easily see why famous was the word intended, after reading that the offering is by such noted sires as Beau Donald, Actor 3d, Prince Rupert, etc. We hope that a good number of our readers will attend the sale and get some of the bargains which will be offered and encourage the Elkton Farm in disseminating good cattle in this section.

A neat Blinder for your back numbers can be had for 25 cents. Address our Business Office.

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Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand. Not affected by heat. 5¢ Get the Genuine.

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Endorsed by U. S. Dept. of Agri. and State Experiment Stations. This soap is a fertilizer as well as an insecticide. 50-lb. kegs, \$2.50; 100-lb. kegs, \$4.00; half barrel, 20-lb. 57¢ per lb. barrel, 42-lb. 31¢. Send for Booklet.

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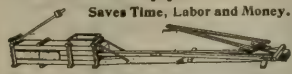
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Also made by the Duplex Manufacturing Co., South Superior, Wis.

Mention the Southern Planter when corresponding with advertisers.

WITH THE ADVERTISERS.
The Ury Stock Farm starts the season's advertising with this issue. Holsteins and Berkshires, as usual, are offered.

Agricultural Lime, Hard Wood Ashes, Fertilizers, etc., are offered by Mr. Percy L. Banks. Refer to the ad.

Mr. E. R. Taylor guarantees that "Fuma" will kill all sorts and conditions of burrowing animals.

The Real Estate Trust Co. has a choice lot of Virginia farms for sale. This company would like to list your farm free of charge.

Angora Goats are advertised by several responsible parties in this issue.

A number of excellent farms, of various sizes and prices, are offered for sale in this number.

Messrs. Meyer & Jehne are offering a splendid pair of Percheron Mares for sale.

No doubt many of our readers will profit by reading the ad. of Mr. Davis T. Williams in another column.

Poland Chinas at farmers' prices and fanciers' breeding can be had of Mr. W. M. Jones.

Duroc Jersey Hogs are growing in popularity in this State. Mr. S. A. Whittaker is offering some nice pigs. Look up his ad.

Minor's Fluid, a splendid disinfectant and dip, is advertised by Mr. A. L. French, Southern Agent.

J. F. Durrette has a splendid offering of Poland Chinas, Shorthorns and Shropshires.

Another new advertiser in this issue is the Benvenue Stock Farm. Aberdeen Angus Cattle are offered.

Mr. H. Swineford is offering some nice two-months old Berkshires.

The Medical College of Virginia has its announcement on another page. This splendid old institution is worthy of the patronage of our readers.


Look up the ad. of the Foss Mfg. Co. An excellent Corn Harvester is offered.

Sloan's Liniment has an attractive card on another page.

L. G. Jones is offering some superior Essex Pigs, which are guaranteed to give satisfaction, or money refunded.

A man who always goes about with a sore face and continues to use toilet and laundry soaps is not entitled to sympathy. He deserves censure. Only painful, sore, and even diseased, faces are to be expected. Such soaps are bound to bring such face trouble. They were never intended for the delicate skin of the face. Nothing but the purest, best shaving soaps should be used—soaps made specially for shaving. Williams' Shaving Soap is pre-eminently the best for the purpose. The advertisement elsewhere suggests a free sample—a good way to find out what really good shaving soap means.

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Write for Prices.



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Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made.

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The Monarch Stump Puller.

The best on earth; you make no mistake in buying of a man of 5 years experience in pulling stumps. We set up the Puller and guarantee satisfaction before we want your money. 5 sizes. Write for catalogue and prices.

JOS. W. RITCHIE, State Agent, R. F. D. No. 38, Grottoes, Va.

Monarch Stump Puller
Will pull stump 7-ft. in diameter. Guaranteed to stand a strain of 250,000 lbs. For catalogue and discount on first machine address
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Make Your Own Fertilizer

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From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultryman; Farm Food Mills, Graham Flour Hand Mills, Grit and Shell Mills. Send for catalogue.
WILSON BROS., sole Mfrs., Easton, Pa.



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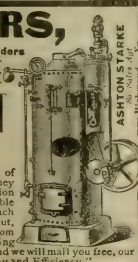
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WEST POINT IN AUGUST, 1904.

(Mary Washington.)

As so many Southern parents have sons at West Point, your correspondent being on a visit to that place, fancies that some items about it may possess interest for the readers of the SOUTHERN PLANTER. Its location is so beautiful that I doubt whether even Switzerland can surpass it. Mountains and water combine to produce the perfection of scenery, whilst the stately buildings and military exercises going on upon the grounds lend life and animation to the scene. The young men receive the finest and most efficient training both mentally and physically; nor is their spiritual training neglected either. They have a very faithful and zealous chaplain, and the Y. M. C. A. seems to have taken firm root amongst them. "Duty, honor, country" is the official motto of the Academy, and it is the constant aim of the officers and instructors in charge to train their pupils to act up to this high standard. Absolute truthfulness is insisted upon, and should any of the cadets be guilty of prevarication, even if it should not come to the knowledge of the officers, it would expose the delinquent to such loss of caste amongst his comrades that existence would be scarcely endurable for him at West Point.

In summer the cadets go in camp, remaining there till August 28th, when they return to barracks. One class is annually allowed a furlough, those who have been there two years, and this is the only one they have till graduation, when, they are allowed to spend the summer with their families before being assigned to duty in the autumn. Study is intermitted in the summer, but the drills and other martial exercises go on as usual. It is a gay place in summer, with a large floating population, mostly feminine, and consisting mostly of mothers and sisters of the cadets. These young men thus receive the finishing touch of polish by association with refined and cultured women. Three nights in a week they have a hop in the beautiful Cullum Memorial Hall, built entirely for purposes of festivity, and it is a charming sight to see lovely young girls gliding along the brilliantly lighted ball-room (it has 340 incandescent lights on the ceiling), with the "spick and span" looking cadets, who dance with a peculiar and stately grace. Between dances they sit on the portico overlooking the Hudson, which (especially on a moonlight night) is beautiful as a dream. On the intervening three nights there is an open air concert, and the cadets sit out on the grounds with their relatives or other visitors. Indeed, there is always something interesting going on, and nothing delights the spectators more than the daily dress parade and guard mounting, which are accompanied by the animated strains of the brass band. You see mothers and sisters galore on

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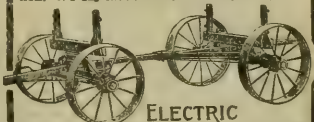
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For purposes of identification it is a veritable detective.
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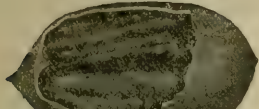
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(1846), and Johnston (1846), were all
infantrymen, whilst Ewell (1840) was
of the Dragoons, and Stuart of the
mounted rifles."

In looking over a scrap-book in the
library, filled with clippings relating
to West Point, my attention was ar-
rested by the subjoining one, taken
from "The Oregonian," Portland, June
12, 1902:

"In our great civil war distinguished
graduates of West Point fought on
both sides of the terrible conflict. The
number of graduates who served in
the Confederate army were 299, and of
these 151 became general officers. There
are more West Pointers proportionately
found amongst prominent Confederate
generals than on the Union side, the
Confederates having from the outset
relied more on their West Pointers,
and less upon political and militia
officers than the North. Out of the
civil war, on both sides, came the lesson
that in a long war the trained soldier
makes the best general. Hundreds of
volunteer officers made brilliant
brigade commanders before the close of
the war. Some made excellent
division commanders, but not more
than three or four proved themselves
able to command an army corps. The
truth is, the South carried over to
its cause proportionately more of the
talent of West Point than the North.
Among prominent Confederate Gen-
erals were Lee, Beauregard, Bragg, Joe
Johnston, Sydney Johnston, Stonewall
Jackson, Longstreet, "Jeb" Stuart,
Pickett, Heth, Early, S. D. Lee, A. P.
Hill, D. H. Hill, Ewell, Hardie, Van
Dorn, McLaws, Bee, Wheeler, Field,
Wilcox and Pegram. The Union army
included Grant, Sherman, Sheridan,
Hancock and many other stout leaders
of superior ability, but the Confederate
list carries with it a higher military
average."

In a clipping from another paper
(The New York Times) I read the fol-
lowing: "West Pointers, professionally,
are equally as proud, and with as good
reason, of the Confederate generals as
of those on the Union side."

Jefferson Davis was also a graduate
of West Point, and was amongst the
many Southern officers who distin-
guished themselves in the Mexican
war. In 1860, about nine months
before the civil war broke out, Jeffer-
son Davis was appointed to head a
board for examining into the system of
instruction and discipline at West
Point, and recommending changes, con-
ducing to greater efficiency, but the
war came on so soon afterwards that
the recommendations of the board were
not acted on.

Robert E. Lee was appointed super-
intendent of West Point in 1852, a po-
sition which he held until 1855, when he
was promoted Lieutenant-Colonel of
the Second Regiment of cavalry, with
which he served in Texas.

Mention the SOUTHERN PLANTER in
writing.



Warranted
to give satisfaction.

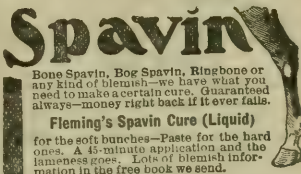
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monials, etc. Address

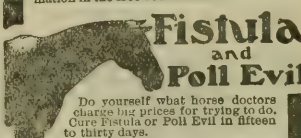
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NO MORE BLIND HORSES.

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Grown in Albemarle County, in the Pied-
mont section of Virginia, where the best seed
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JONES**, Manager.

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Extra Fine Seed Grain For Sale

Golden Chaff wheat
Everett's High Grade wheat beardless
Red Wonder wheat bearded
Virginia Winter Gray or Turf oats

All these varieties are strictly No 1 seed
grain.

Price wheat \$1.50; Oats 75 cts per bushel.

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NOTES FROM THE WEST.

Notwithstanding that Minneapolis is the wheat converting centre of the country, the average wheat yield of Minnesota is only that of the average of the United States—about 14 bushels per acre. Fourteen bushels—how ridiculously meagre? Five years from now it will be much larger. Why, again? Because the State has one of the best State Farms and Experiment Stations in the country, and its work in wheat breeding has become famous in the cereal world. The State Farm has bred wheat with increased yield of 18 per cent. This means an increase, upon the same acreage, of fifteen million bushels of Minnesota No. 1 red spring wheat. It would mean an increase as applied to the whole United States of nearly three bushels per acre, or over a hundred million bushels. The process is simple, as related to me by Professor Hays, the State Agriculturist. The first step is simply a matter of selection. Each wheat seed is self-pollinating, and it will come true to seed. In a bushel of wheat there are various kinds. Some of the seed will produce at the rate of 15 bushels per acre; some at 20 bushels, and some perhaps at 25 bushels, on good land. It is a question of selecting out the best seed. The first year's step is to take some good wheat and plant a large number of grains, about four inches apart. Out of the whole lot the very best 50 grains are selected and planted the following year. Out of this crop the best 50 are selected, which will be better than the 50 of the preceding year. And so on for several years. Finally, after eight or ten years 50 wheat kernels will result much superior to the original seed, and, as in the case of Professor Hays' experiment, these were then planted for seed, and as soon as a sufficient amount had been accumulated, distributed among farmers and seedmen, who are rapidly introducing the improved seed throughout the State in place of the common seed. The more complex part of the experiment is the artificial crossing or hybridizing of different plants of this improved sub-variety. Professor Hays believes it is not too much to expect that 15 bushel wheat can be selected and bred up first to 20 bushel wheat, and later to 25 bushel wheat.

"But I would not dare predict this," he said, "because people are impatient for immediate results, and such accomplishments are secured only by long and patient, systematic effort." Professor Hays' accomplishments, however, already performed, even should they go no further, rank him as one of the foremost of the scientific agriculturists of the day who do things.

The appointment of W. M. Hays, Professor of Agriculture in the University of Minnesota, prominently mentioned as the President's probable choice for Assistant Secretary of Agri-

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culture, would bring to that office not only one of the most practical farmers of the country, but a man thoroughly abreast of the times regarding the needs of greater agricultural education in the country schools. In fact, Professor Hays is considerable in advance of public thought upon this subject, and is, along with a few other far-sighted educators, endeavoring to drag public opinion after him.

"By their fruits ye shall know them." This instructor of young men and women is not a theorist. He has educated hundreds of boys and girls in better methods of farming, and they have gone back to the farm to make of that business the greatest possible success. Minnesota and the northern Mississippi Valley owe much to him, and his appointment as Assistant Secretary of Agriculture would greatly broaden the scope of his valuable work. Secretary Wilson and Professor Hays entertain the highest regard for each other.

A Washington man who holds a government position has a fine little flock of hens and sells from two to six dozen eggs a week, besides what his family consumes. He asks from two to four cents more for his eggs than the store price, according to the season. He gets it, and he could sell twice as many eggs right among his fellow clerks. Why? Because they all know that these eggs are absolutely fresh, and only the city dweller, who has to eat stale and limed eggs, knows how to appreciate fresh ones. If this can be done on a small scale by personal contact between the producer and the consumer, it can be done on a commercial basis by any farmer or poultry owner, providing he takes the same care which the Washington government clerk does.

Have you read Kipling's "Jungle Book" in a chapter of which he tells about Letting in the jungle? The inhabitants of the jungle make it so uncomfortable for the man family of a nearby community by concerted attacks, that the humans leave the vicinity in despair and in a short time the jungle, with its rapid growth of vegetation, again holds full sway and all but obliterates the efforts of puny man to reclaim it from the wilderness. In a recent trip through such prosperous farming States as Maryland, Ohio, Indiana and Illinois, I noted many instances of the letting in of the jungle. Land which had been bravely cleared and planted to cultivated crops had been, after a few years, allowed to go back and to grow up to weeds, brambles and scrub. No dangerous wild beasts lurk therein, but the seeds of sloth, indolence and bad management had everywhere sprung into prominence, and the land has become well-nigh as unproductive and as non-contributing to the human community as did the Indian jungle. Year after year

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W. E. MILLER,
HERNDON, VA.

goes by and such lands lie practically idle, sustaining useless growths, where, by a little foresight and small guidance, the stores of fertility might be converted into useful and sightly groves of nut, post or wood-bearing trees, even admitting that it is impracticable to work farm crops. There will never be a lack of a good market for locust or catalpa posts, railroad ties or telegraph and telephone poles, and there is no latitude or longitude in the country where some useful and profit making tree will not make a merchantable growth on the poorest soil. The years slip by rapidly, and useful, quick growing trees soon add large value to vacant land. If eight or ten years does not bring them into actual marketable condition, it increases the value of the land they occupy, just as a two-thirds matured crop of wheat makes land more valuable than that which lies fallow; only that land once planted to trees yields a continuous annual crop for a man's lifetime.

Experiments recently made in France for the purpose of ascertaining the nutritive value of salt for sheep show that sheep which had been fed salt gained in weight four and one-half pounds more than those which received no salt. Moreover, the sheep which received salt produced one and three-fourths pounds more wool and of a better quality than those which received no salt.

A report from Tennessee shows that the farmers of that State spend annually about \$1,500,000 for fertilizers, whereas the droppings from the one million head of cattle of all classes in that State, according to results obtained at the Ontario Agricultural Station, are worth about \$40 a head a year. It will be seen that an appalling waste is going on when one considers how insignificant an amount of stable manure is being placed on our farms.

The English are great consumers of bacon. A vast majority of the people of that country eat bacon for breakfast at least six mornings out of seven throughout the year.

GUY E. MITCHELL.

"CHICKEN CHAT."

This is the title of a very valuable little book, issued by the Zenner Disinfectant Company, 33 Bates street, Detroit, Mich. It describes all diseases to which poultry is heir and gives a remedy for them. Everybody who keeps fowls, in either small or large numbers, should send for a copy of the book, which will be furnished free by applying to the above address.

The rain it raineth every day
Upon the just and unjust fellows;
But, chiefly on the just, because,
The unjust take the just's umbrellas.

HOMES AND THE PLACE TO FIND THEM.

No place in the United States can a man do so well at farming, for it money invested, as in Virginia. Lands are cheap; climate good, and the best of markets close at hand. It is the State of all others, for a comfortable all the year round home. The James River Valley Colonization and Improvement Company offer superior advantages to land purchasers. For free 36 page land pamphlet, address

W. A. PARSONS, Vinita, Va.
C & O Main St. Depot Richmond, Va.

BLUE GRASS & TRUCK FARMS.

The best grazing section of Virginia, Blue grass indigenous. If you are interested in fruit growing or trucking, you can find no better country in the United States.

BUY THE BEST and send for our free Real Estate Bulletin, it will help you find it. **SOUTHWESTERN VIRGINIA LAND AGENCY,** C. B. Thomas and L. F. Krenning, General Managers, Wytheville, Va.

..To Homeseekers..

"THE BUSINESS OF FARMING IN VIRGINIA."

Is the title of a new pamphlet issued by the Norfolk and Western Railway Company. We will gladly mail you a copy.

W. B. BEVILL, PAUL SCHERER, Agt.,
G. P. A., Lands and Immigration,
Roanoke, Va.

FOR SALE

—OR—

FARM ON SHARES

I will sell all or one-half my dairy business, or I will give the right man an interest in profits to superintend same. A bargain for a good man. Apply **OAK HILL STOCK AND DAIRY FARM,** Wenona, Va.

D. & W. R'y.

Northern Virginia,

Grain, Fruit, Dairy and Blue Grass Farms of every Class within one hour of Washington, D. C.

LOUDOUN COUNTY Farms a Specialty.....

Catalogue on application.

P. B. BUELL & SON,
Real Estate Brokers,
Herndon, Fairfax Co., Va.

For Exchange

A Florida Seashore Hotel, open the year round. Nets the owner over \$5,000 annually; will exchange for a fully stocked farm in Virginia or adjacent State; must come North on account of health. **J. T. FLOURNOY,** 793 Ocean Ave., Jersey City, N. J.

Old Virginia Farms

25, 50, 100, 500, 1,000 and 2,000 acre tracts. Some of these highly improved and convenient to schools, churches, steam and trolley lines. Send for our new catalogue. HOCK-ADAY, CASSELMAN & CO., Box 257, Richmond, Va.

630 ACRE FARM

Near Keysville, Va., for sale at \$4.00 per acre. This farm is well wooded and watered; about half of it is in original growth timber valued at several thousand dollars. Am anxious to sell. Correspondence invited. T. E. ROBERTS, Chase City, Va.

FARMLANDS.

The best locations, choicest lands in Virginia. Grains, Grasses, Fruit, Poultry, Dairy, Stock. For information address REAL ESTATE TRUST COMPANY, Richmond, Va. Owners desiring to list farms in new catalogue now in preparation will write at once to W. M. Cary, Manager Farms Department. No charge for listing property.

319 ACRE FARM

In Russell county, Va., for sale; fine grain and blue grass farm, under a high state of cultivation. Finely watered, containing five large limestone springs. Can be purchased reasonable. Parties interested are requested to call and see or address STEELE BROS., Raven, Va.

I Can Sell Your Farm...

If located in one of these Virginia counties: Prince George, Chesterfield, King William, Gloucester, New Kent, King and Queen. Hanover. Send description, stating price. JOHN JELINEK, 1116 Pine Alley, Braddock, Pa.

"In the Green Fields of Virginia."

Homes for ALL; Health for ALL; Happiness and Independence for ALL. ALL sizes of FARMS at corresponding prices, but ALL reasonable.

MACON & CO., Orange, Va.

VIRGINIA FARMS

\$3 PER ACRE AND UPWARDS
EASY PAYMENTS. CATALOGUE FREE
GEO. E. CRAWFORD & CO., Richmond, Va.
Established 1875.

FINE FARMS in the great fruit grain and stock section of VIRGINIA. Best climate and water in the U. S. Near great markets, with best educational advantages. For further information address ALBEMARLE IMMIGRATION CO., SAM'L B. WOODS, Pres., Charlottesville, Va.

Go South. For full particulars write A. JEFFERS, Norfolk, Va.

••• VIRGINIA FARMS •••
Nice little poultry farm, 100 acres, good house and orchard, \$5,000. Blue Grass, Stock and Fruit Farms. Address PORTER & GATES, Louisa, Va.

VIRGINIA FARMS

All prices and sizes. Ask for free list.
WM. B. PIZZINI CO., RICHMOND, VA.

THE LABOR DIFFICULTY.

Editor Southern Planter:

In the July number of The Planter, I noted an article by Mr. Camm Paterson, and his utterance in regard to the labor situation in the South especially caught my attention. As we have all felt the necessity of an improvement in the quality of labor on the farm for some years past, I beg to call attention to the means employed by some of the Northwestern States to add to the supply of good farm labor in the past. I think that both Minnesota and Wisconsin have in past years sent commissioners to Europe, especially to the Scandinavian countries, to encourage emigration to their States. The result was an annual stream of emigrants from those countries, who, in a short time, not only became good farm laborers, but skilled and trusted help in factory and office, and some of the most prosperous and law-abiding citizens of those States. The situation must be growing desperate when men can make propositions like the one made by Dr. Laferty, viz.: the introduction of Chinese coolie labor on the farm. In the first place, a Chinaman will not become a citizen, and for that reason the United States has seen fit to exclude him by law, and, if the law should be repealed, there would be the race problem in his case—the same as we now have with the negro—and I have my doubt about the Chinese coolies being more trustworthy laborers than the negro.

Mr. Editor, my question is this: If we have to supplant the negro with other labor, why not get a good class of white labor, that will eventually make good citizens, and add materially to the wealth and producing power of the State. I have often thought of calling the attention of our excellent Commissioner of Agriculture, Mr. Koiner, to this fact, and I have no doubt that if the scheme was tried it would prove successful, as it has in other States.

I may state here that I am a Norwegian myself, moved here from Minnesota a few years ago to make Virginia my future home. I see grand opportunities for the agriculture of this State, but the present labor situation blocks the way of progress. I would like to see more in The Planter about this question. Let the Commissioner of Agriculture take this question under consideration, and correspond with agricultural societies in the States mentioned about this matter.

M. O. ELTON.

ABOUT THE BEST FOR BLISTER.

Leesburg, Va., March 24, 1904.
The Lawrence-Williams Co., Cleveland, Ohio:

I have used GOMBAULT'S CAUSTIC BALSAM quite a good deal, and I think for a blister it's about the best I ever used. I wish your remedy every success.

CHAS. MOTT.
Manager Mayfield Stud Farm.

Make Your Idle Money Earn You Interest.

Write the FIRST NATIONAL BANK of RICHMOND, VIRGINIA for information concerning its certificate of deposit, so arranged that one per cent. may be collected every FOUR MONTHS through your nearest bank or store.

Our experience proves this form for savings to be the most satisfactory plan yet devised for deposits of \$100.00 or more.

Our Capital and Surplus is

ONE MILLION DOLLARS.

JOHN B. PURCELL, President.

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"Crop Growing and Crop Feeding."

BY PROF. W. F. MASSEY.
383 Pp. Cloth, \$1.00; Paper, 50c.

We offer this splendid work in connection with the SOUTHERN PLANTER at the following prices:

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MILK OIL DIP FOR Cattle, Sheep, Hogs.

Oldest American Dip. Cheapest Most Effective. Strongest obtainable. 1 gal. can dip 50 gal. hogs, 100 gal. cattle. Catalogue Stockmen's Supplies Free. F. S. BURCH & CO., 144 Illinois Street, CHICAGO.

THE FONTAINE

SHOCK BINDER

at \$1.50 delivered, is the greatest labor saver ever offered to farmers. It keeps shocks dry inside and prevents them falling. Endorsed by test farms of U. S., Va., N. C., Ill. Send for circular with testimonials and directions for cutting and shocking corn. Agents Wanted. FONTAINE SHOCK BINDER CO., Christie, Va.

THE KEELEY INSTITUTE GREENSBORO, N.C.

For the treatment of THE LIQUOR, OPIUM, MORPHINE and other Drug Addictions. The Tobacco Habit, Nerve Exhaustion.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

**EGGS FOR HATCHING**

Strawberry Hill Poultry Yards
R. P. ROCKS, S. C. B. LEG-
HORN, S. C. B. LEGHORN,
ARISTOCRAT. Taken first
prize throughout 7 States.
LEGHORN COCKERELS FOR
SALE

Box 287, Richmond, Va.

White Leghorn

Cockerels for sale. Exhibition
or breeding stock. Address

C. G. M. FINK,

R. F. D. 2,

Richmond, Va.

Piedmont Poultry Place,

"Handles nothing but the best."

We now offer Pure-bred POLAND-CHINA
Pigs for sale. We will not sell under 8 weeks
old. Single pig \$6; per pair \$10; per trio, \$14.
Some ready for shipment May 15th. First or-
ders get best pigs.

Miss E. Cattie Giles, Prop.,
Whittles Depot, Va.

PIT GAMES

Black Devils and Red Cubans.

Where they won, Sharon, N. Y., 4 out of 5
Blue Rock, Va., 2 out of 3. Clarion, Pa., 1
straight. Roanoke, Va., 8 out of 9. Akron,
Ia., 2 straight. Eggs, \$2 per sitting. Youss
trios, equal size, \$3.

THOS. W. JARMAN, Yancey Mills, Va.

FOR SALE.

MAMMOTH BRONZE TURKEYS, B. P. R.
CHICKENS, TOULOUSE GEESE, Two Hol-
stein Friesian Heifers, Five large English
Berkshire Pigs. Prices reasonable, and sat-
isfaction guaranteed. MRS. W. F. JACK-
SON, Olga P. O., Amelia county, Va.

Barred Plymouth Rock

Cockerels and Pullets for sale at prices as
low as you pay for common chickens. Good,
healthy stock. Address Mrs. W. A. ED-
WARDS, Irwin, Va.

PIEDMONT HEIGHTS FARM

has for sale a number of

S. C. B. LEGHORN COCKERELS.

Early hatched, \$1 each. F. C. LOUHOFF,
Yancey Mills, Va.

LIGHT BRAHMAS.

Pure bred stock from prize winning strains.
Old and young stock for sale. Hens, \$1.50;
roosters, \$2.50; pullets, \$1; cockerels, \$2.00.
J. H. FRASER, Cartersville, Va. (Cumber-
land county).

Pure Bred

Barred Plymouth Rock

pullets for sale. Price, 30c. to \$1, according
to age, if taken at once. WM. B. LEWIS,
Irby, Nottoway county, Va.

Pure-Bred Buff Orpington

Cockerels for sale; \$1 up, depending on
quality. Write me what you want. T. M.
KING, Queensland Farm, R. F. D. 2, Hagan,
Lee county, Va.

SUMMER DESSERTS.

There is a theory among some house-
keepers that the luscious fruits of sum-
mer constitute an all-sufficient dessert
during the hot months. They will
fix up grapes, peaches and pears in
fanciful pyramids, with leaves about
them and a knot of ribbon or flowers
on top, and waste time in carving out
rosy slices of watermelon instead of
going to work and making some des-
sert which would satisfy an old-fash-
ioned person like myself. For my part,
I prefer something more premeditated
and less simple.

I am not advocating any elaborate
course that will cost a lot and make
you work too hard. Peach ice cream
is a favorite sweet dish with every
one, and if you have plenty of soft,
ripe peaches, it can be easily made.
Before beginning, examine the ma-
chinery of your freezer to see if it is
in good running order. Grease every
part lightly, and be sure to put a little
lard or oil on that socket in the pail
in which the knob of the freezer turns.
Crack up the ice in small lumps and
have a little bucket of salt ready, and
the main difficulty is over, for if your
freezer is in good order and if it is
"The Queen," you will have done in
thirty minutes from putting in the
cream.

Take one gallon of morning's milk
and sweeten with one cup of white
sugar and pour into the freezer. Turn
rapidly ten minutes. By that time it
will begin to freeze. Have ready two
quarts of soft peaches, mashed fine
and sweetened with two cups of white
sugar. Add this to the milk and stir
well. Fasten up the freezer and turn
for twenty minutes, and a dainty, re-
freshing dessert is ready. Cover
closely with newspapers until you are
ready to serve it, and mark my words,
the men of the family will think you
the sweetest, most industrious girl in
the country, especially if you perform
this loving service with a smiling air,
instead of posing for a martyred angel.

Another summer dessert we are fond
of is baked peach dumplings. Take
one quart of fruit, add two teaspoon-
fuls of baking powder before sifting,
and work into it one cup of butter or
lard, and then a cup of sweet milk.
Roll out thin and cut into little
squares, wrap a peeled peach in each
of these pastry blankets and put side
by side in an ordinary bread pan.
This amount ought to make twenty
dumplings. They take thirty minutes
to cook with a quite hot fire. Take
two cups of sugar and mix into a
smooth paste with a half cup of butter
and a half teaspoonful of powdered
cinnamon to each of the dumplings, or
you can have just butter and sugar as a
sauce.

You can serve this same pastry for
any kind of baked fruit dumplings,
apples, damsons, any kind of berries
or preserves. Only for small fruit,
roll out into one large sheet instead

30 ANGORA GOATS

For sale at
reasonable Prices.
Kids in Pairs.



C. H. WINE, Brandy Station, Va.

MANSFIELD**STOCK FARM**

1 2-year-old 3-4 Male Angora, \$7.00.
1 1-year-old 3-4 Male Angora, \$5.00.
4 Kids, Male Angora, \$3.00.
Pure, but unregistered, 16 mos. old.
1 Dark Jersey Bull, out of 7 Lb. Cow, \$15.
1 Steele Jersey Bull, out of 8 Lb. Cow, \$15.
Also 1 nearly new Star Pea Huller, cost
\$25. Will sell for \$20. Used one huller only.
Hand power. Will thresh and clean 6 bush-
els per hour. W. E. HAMMOND, Goochland
C. H., Va.

Wanted—Prices on 40 good grade sheep, de-
livered at my station, Maidens, C. & O., Va.

Angora Goats

Several very high grade buck kids (from reg-
istered sire $\frac{3}{4}$ grade does), look like pure breeds.
For sale at $\frac{1}{2}$ 5 each. F. O. E. Don't write
but send check with order to

A. L. FRENCH, Byrdville, Va.

Also high class registered Angus cattle.

Angora Goats

8 pure bred, young females and 1 male, for
sale. E. L. TOMPKINS, Fine Creek Mills,
Va.

ANGORA GOATS are handsome, hardy and
profitable. For large cir-
cular address E. W. COLE & CO., Big Chiff, Ky

Edgewood Stock Farm.**SCOTCH COLLIES**

A beautiful litter of sables and blacks, full
white marks. Bred strong in blood of Chris-
topher, Barwell Mystery, and Doon Marvel.
Sire and dam grand drivers, great workers.
Pups now ready at \$10 and \$8. Eligible to
registry. Get photos. H. B. ARBUCKLE,
Maxwellton, W. Va.

COLLIE PUPS

Hy Imported Sires Sable and white and tri-
colors. Prices \$8 to \$15. Older ones correspond-
ingly low. Book on Training, 50 cents. FREE if
you buy a Collie.
MAPLEVONT STOCK FARM, South Athol, Mass.

CHICKENS

for sale. B. P. ROCK, S. C. B. LEGHORN
and WHITE WYANDOTTE. Fine pure bred
stock. Prices reasonable. Write Miss CLARA
L. SMITH, Croxton, Caroline county, Va.

3 Thoroughbred Mares FOR SALE.

VOLEE, B. M. Foaled 1891, by Volante, winner of the American Derby, and son of Grinstead and Sister Ann, by imp. Glenelg. First dam imp. Lady Trappist, dam of five winners; by Trappist; second, Vic by Albert Victor; third, dam Modena by Farnesau, etc. This mare is a winner, and has a ch. c. Foaled May 19th by the Great Trial winner Chiswick, by imp. Mr. Pickwick—Alice Bruce by Fallowcraft. Price of mare and colt, \$550.

DEADLESE, B. M. Foaled 1896, by Montfort, son of imp. Mortemer and Revolt, by Lexington. First dam, Miss Grace (sister to Diablo), by Eolus; second dam, Grace Darling, by Jonesboro; third dam, Ninetta, by Revenue, etc. This mare has a filly foal, which will not be sold, so mare cannot be delivered until early in September. Price, \$300.

DARTEE, Br. M. Foaled 1900 by imp. Water Lever, sire of Iconomy and Water Lily, by Lord Lyon. First dam, Fearnot, by Jim Gray; second dam, Fearless, by imp. St. Blaise; third dam, imp. Dauntless, by Macaroni, etc. This mare has won races. Price, \$300.

All of these mares are fine individuals, and are royally bred, and all have been bred, and are believed to be in foal to the young imported horse, Aldine, by St. Simon. First dam, Ronaldina, by Barcardine; second dam, Lady Ronald, by Lord Lyon; third dam, Edith, by Newminster, etc. Address

WILLSON CHAMBERLAIN,
R. F. D. 2, Charlottesville, Va.

FOR SALE

A fine team of gray

PERCHERON MARES

weighing about 2800 pounds, 6 and 7 years old, very active, fine workers everywhere, both safe in foal to the great gray Percheron stallion DOM PEDRO, No. 15558, recently sold at a long price to Messrs. Hicks & Hopkins, of Matthews Co. Price of mares, \$400. If convenient, will trade in a good driver for part payment. **MEYER & JEHNE,** Farmville, Va.

One Registered

Thoroughbred Stallion

for sale. Also, 2 highly bred brood mares and several colts, 1, 2, and 3 years old. **N. B. COOKE,** Taylorsville, Hanover county, Va.

Percheron Stallions

For sale, 2 years old and older; bred from the best families in America; pedigrees tracing to imported sire and dam; nothing but imported stallion used at the head of stud; prices right.

D. T. MARTIN, Salem, Va.

PURE-BRED

Percheron Stallion

for sale. Age, 5 years; weight, 1,500 pounds. **E. H. DeBUTTS,** Linden, Va.

OAK-HILL FARM

SADDLE HORSES, JERSEY AND ABERDEEN ANGUS CATTLE, BERKSHIRE HOGS,

—FOR SALE—

Shipping point Oak-Hill, Va., (Station on farm) on D. & W. Ry. 15 miles west of Danville, Va.
SAM'L HAIRSTON,
Wenonnda, Va.

of cutting into inch squares as for apples or peaches, and filling the middle of the sheets with fruit, roll up and pinch the ends well together. Some people put a teaspoonful of sugar in each dumpling before baking, but this never tasted really good to me. I prefer a honest bowl of sauce or the strength found in an unaffected plate of butter and sugar sauce.

ALICE WINSTON.

SYDNOR PUMP & WELL CO.

Special attention is called to the ad. of the Sydnor Pump & Well Co. in this issue. This company closed a contract with the United States Government army officials at Manassas, Va., on July 30th for a system of water works to supply the troops encamped at this point during the army manoeuvres to be held from September 2nd to 12th. It embraced the drilling of twelve artesian wells, the installation of about nine miles of pipe, seven 10,000-gallon tanks and towers, twelve Charter gasoline engines in connection with four hundred and fifty shower baths in connection with a large quantity of small galvanized steel watering tanks and other similar fixtures. One of the provisions of the contract called for the completion of this work by the 25th of August. It is quite a tribute to the ability of the personnel of the company that they have not only complied with the contract, but have put in extra work, all of which has been completed on time. This shows that the Southern people are becoming better equipped every day to compete with Northern firms. This company not only makes a specialty of complete water supply system, but install complete plumbing systems in connection therewith in country residences, and number among their customers in work of this character, the Ramsay's, at historical old Westover; Mr. Jos. Bryan, Mr. Wm. Rueger, Richmond, Va.; the Jno. A. Dix Ind. School, Dinwiddie, Va.; Mr. David Dunlop and Mr. W. H. Moody, Petersburg, Va.; Mr. I. J. R. Muirring and Mr. J. K. Maddux, Warrenton, Va., the old Page Homestead, at "Oakland," (birthplace of Thos. Nelson) Hanover county; Mr. Murray Boocock and Mr. L. Pugh, Keswick, Va.; and, in fact, they are so well known in this class of business for reliability and first-class goods that the best of the trade naturally goes to them. Besides this work, they sell boilers and engines for farm purposes, gasoline engines, windmills, compressed air storage tank systems, pumps of all kinds, iron and wire fences, sawmills, saws, etc. Any one being in need of any material of this kind would do well to correspond with them.

Their Charter Gasoline Engines are so widely and favorably known that not long ago they received an order for an engine to be shipped to the Southern Methodist church for Board of Foreign Missions at Shanghai, China.

ELLERSLIE FARM

**Thoroughbred Horses
AND SHORTHORN CATTLE,
Pure Southdown Sheep
and Berkshire Pigs.**

FOR SALE. **R. J. HANCOCK & SON,**
CHARLOTTESVILLE, VA.

KENTUCKY JACK FARM

A fine lot of KENTUCKY bred and big BLACK SPANISH Jacks and Jennets; also 1 and 2 year old Jacks; young stock for sale at all times.

Write or see me before you buy. Come to Kentucky if you want a good Jack. **JOE E. WRIGHT,** Junction City, Ky.

Virginia Bred Jack,

A fine one, for sale. 2 years old 10th last June. He is large for his age, and a perfect beauty. Will sell cheap for cash. Write or come to see **J. E. THOMASSON,** Bumpass, Va.

BURKES' GARDEN

DORSETS

I have a few pure bred RAMS and some good GRADE EWES for sale at prices within reach of all. **SAM'L T. HENINGER,** Burke's Garden, Va.

Woodland Farm

offers the best lot of October dropped Dorset Ram lambs which it has ever raised.

J. E. WING & BROS., Mechanicsburg, O.

DORSETS AND HEREFORDS

H. ARMSTRONG, Lantz Mills, Va.

V. P. I. Farm Bulletin

We have for sale at present, some splendid
DORSET RAM LAMBS.

For prices, etc, address

D. O. NOURSE, Prof. of Agr.
Blacksburg, Va.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

The only soap that won't smart the face—Williams' Shaving Soap.

Sold everywhere. Write for booklet "How to Shave."
The J. B. Williams Co., Glastonbury, Ct.

O. I. C. Everybody Wants One.
4 MONTHS OLD.

O. I. C. Boars \$12.50 Each.
Young stock cheaper. Cannot be beat.

Mansfield Stock Farm,
W. ELLIOT HAMMOND. Goochland C. H., Va.

**PURE-BRED
O. I. C. PIGS**
for sale. Weight of sire, over 400 pounds, mother 250 pounds. Will make more meat than any other breed of hogs from the same feed. Price, \$4.50 each or \$3 per pair. J. E. THOMASSON, Bumpass, Va.

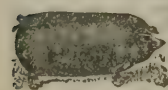
Poland-Chinas and Chester Whites
AT FARMER'S PRICES.
S. M. WISECARVER, - - Rustburg, Va.

Salt Pond Herd.

DUROC JERSEYS

Home of Paul J. 21625. Also Lulu's Pet 40434. Pigs of March and May farrow for sale. Write for what you want.

S. A. WHITTAKER, Hopewide, Va.



Registered P. Chinas Berkshire C. Whites. Large strain. All ages mated, not akin, bred sow, service boars, Guernsey calves, Scotch Collie pups, and Poultry. Write for prices.

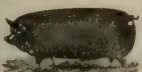
and free circular. P. F. HAMILTON, Cochranville, Chester Co., Pa.

SHAKESPEARE & OWENS,
Best in their Lines

AT THE CEDARS, KENNELS, POULTRY, LLEWELLYN SETTERS, BEAGLE AND STOCK FAIR, are bred the finest HOUNDS, JERSEY CATTLE, DUROC JERSEY SWINE, M. B. TURKEYS, and B. P. R. CHICKENS. WM. G. OWENS, Midlothian, Va.

Essex and Poland China

pigs from 8 weeks to 4 mos. old, an extra choice lot. Also some choice Southdown and Hampshire down Sheep and Lambs. For prices address L. G. JONES, Tobaccoville, N. C.



WHEN VISITING THE WORLD'S FAIR RIDE ON THE FERRIS WHEEL.

The great Expositions held during the last fifteen years have produced two marvelous examples of engineering and constructive ability. One of these, the Eiffel Tower, was designed and built by a Frenchman at Paris for the Exposition of 1889; the other, the Ferris Wheel, was designed and built by the late Geo. W. G. Ferris for the World's Columbian Exposition at Chicago, in 1893.

Paris again held a great Exposition in 1900, but failed to produce any feature to take the place of the Eiffel Tower. In America, St. Louis, in 1904, planned and produced the greatest Exposition the world has ever seen. Scores of attempts were made to invent something more wonderful and more attractive than the Ferris Wheel, but as Paris failed to outdo her own Eiffel Tower, so did St. Louis fail to equal the far-famed Ferris Wheel of the World's Columbian Exposition of 1893. Arrangements were accordingly made to bring the Ferris Wheel to the Louisiana Purchase Exposition, and it was given a location near the geographical center of the grounds.

The Cascades, the Plateau of States, all the big buildings, the Pike, Festival Hall, the Art Building, Foreign Buildings, Philippine Reservation, the Air Ship Enclosure; in fact, every point of interest in the grounds can be seen from the big wheel. In addition, one gets a view of St. Louis, the Mississippi River, and the beautiful forests, hills and dales for fifty miles around. At night, the view of the illumination of the buildings and grounds is simply magnificent. Eye has not seen nor ear heard of a more striking spectacle than the night view of the great Exposition from the top of the Ferris Wheel.

Hundreds of thousands of incandescent lights bring the outlines of all the buildings in bold relief. The Festival Hall and the Plateau of States are flooded in turn with white, red and green lights, making a startling and very beautiful effect. The best point to view this grand illumination is from the Ferris Wheel.

When you come to the Fair, do not fail to ride upon it.

THE IMPERIAL PULVERIZER.

The Peterson Manufacturing Company, Kent, Ohio, send us a copy of the United States Trade Reports, an implement journal, giving an account of the personal examination by its editors of the Imperial Pulverizer and Clod Crusher. The result of the inquiry must be eminently satisfactory to the Peterson Manufacturing Company, inasmuch as the editors pronounce the machine as positively the best thing of its kind on the market. Look up the advertisement elsewhere in this issue and send for circulars, etc.

GREAT HERD BULL FOR SALE

Marquis of Salisbury 16th AT A BARGAIN.



The best son of IMPORTED SALISBURY 7659. ALMOST AN EXACT COUNTERPART OF HIM. In this young bull is a rare combination of the best foreign and best America strains of blood, through his sire we have Boniface, the Grove 3d, Pioneer, Horace, Pirate, Monarch, St. Thomas and Lord Wilton, while through his dam we have the Earl of Shadeland 22d, Anxiety Monarch, Sir Richard 2nd, Anxiety, the Grove 3d, and Garfield, Writheus.

See our large add on another page.
ROSEMONT FARM,
Berryville, Clarke Co., Va.

LARGE YORKSHIRE PIGS

for sale, from pure bred, registered stock; fine litter farrowed June 26th; also one service boar 14 mos. old registered. C. H. SOUTHWICK, Asheville, N. C.

High-Class Poland Chinas



Best registered blood. Strong-boned, healthy pigs, either sex, 2 mos. old, for \$5.00, all eligible to registry and first class. None but good ones shipped.

E. T. ROBINSON, Lexington, Va.

ORCHARD HILL PURE-BRED

POLAND CHINA

Pigs and brood sows for sale. Also a fine Guernsey Bull Calf and S. C. B. Leghorn Eggs. F. M. SMITH, JR., R. F. D., 4, Charlottesville, Va.

"Feeds and Feeding"

Prof. Henry's Great Book for
Farmers and Stockmen.

Delivered anywhere for \$2.00
With the SOUTHERN PLANTER, 2.25

Mention THE SOUTHERN PLANTER when corresponding with advertisers.

HEREFORD CALVES AT BARGAIN PRICES.

IF YOU ARE NOT PREPARED TO PAY CASH, WE WILL GIVE YOU TIME. NOW IS THE TIME TO BUY FOR FALL SHIPMENT SOUTH. Calves by IMP. BRITISHER, last year Champion of ENGLAND AND AMERICAN; PROTECTOR, imported from ENGLAND at a cost of \$6,000; ACROBAT, the GREATEST living HEREFORD SIRE, cost the unprecedented price of \$8,500, at nine years of age, sire of the \$3,700 CHAMPION CARNATION; LARS, JR., a good son of the old CHAMPION LARS; BEAU DONALD, and others. Now is the time to buy, before the advance which is sure to come. Get in the BAND WAGON, while you can get in CHEAP. Send for our HERD CATALOGUE, an encyclopedia of rich HEREFORD pedigrees, embellished with cuts of our cattle, also containing some words relative to the great ACROBAT, 68469, our chief stock bull. A large plate picture of ACROBAT will be sent to all who will frame it, size 14x18 inches.



OUR BRIEF HISTORY OF HEREFORD CATTLE, being a book of some 40 pages, will soon be ready for distribution—be sure to send for a copy. OUR HERD is the LARGEST and BEST in the SOUTH AND EAST, numbering 70 HEAD of the very FINEST and FANCIEST specimens of the breed maintained in our rich BLUE GRASS pastures, in the VALLEY of the SHENANDOAH, insuring the best possible development of bone and muscle. We always have on hand a choice lot of females, of the choicest blood lines, bred and open. OUR CATALOGUE TELLS THE TALE—be sure to get one. Inquire about our fine BRITISHER, PROTECTOR, BEAU DONALD and ACROBAT calves—we will send you a full and honest description, or better, visit us and make your own selection. Remember, we will give you time to make payments, if you wish. Look for our ad. next month, and address us to-day as follows:

ROSEMONT FARM

Clarke County,

= = = =

Berryville, Va.

W. J. CARTER, ["BROAD ROCK"]

Turf Journalist and
Pedigree Expert. . .

Address P. O. Box 929, Richmond, Va., or 1102 Hull street, Manchester, Va.

Representing the Times-Dispatch and Southern Planter, Richmond, Va.; Kentucky Stock Farm and The Thoroughbred Record, Lexington Ky.; Sports of the Times, New York, and the Breeder and Sportsman, San Francisco, Cal.

FOR SALE.

Standard and Registered Trotting Mare,

rich bay, elegantly bred, young and sound. Bred to Kelly, 2:27, and in foal.

Address W. J. CARTER,
Box 929, Richmond, Va.

1904.

1904.

WOODMONDE AND HATTONDALE FARMS

BURLINGTON

"The Gentleman in Black,"

Winner of the Criterion Stakes, Pelham Handicap, Brooklyn Derby, Belmont, Trial and Tidal Stakes.

Black horse, by Powhatan, dam imp. Invercauld, by St. Albans; 2d dam imp. Eleanor, by Voltigeur; 3d Themis, by Touchstone; 4th dam Rectitude (dam of Lulus, Dr. Calus, Chivalry and Aristides), by Lottery; 5th dam Decision (dam of Brown Stout XXX and Silvio), by Magistrate, etc., etc. BURLINGTON will make the season of 1904 at J. E. Lane's above named farms at Esmont, Albemarle county, Va.

Fee \$50 with usual return privilege if horse is alive and in my possession.

For particulars address

J. E. LANE,

Esmont, Albemarle County, Va.

For Sale to Reduce Stock.

THREE BROOD MARES, all trotters, and richly bred. Bargains. Address

ROBERT TAIT, Norfolk, Va.

1904.

1904.

KELLY, 22283.

Record 2:27. Sire of McChesney, 2:16½, etc. Bay horse, by Electioneer 125; first dam, Esther, dam of Expressive 3, 2:12½; Express, 2:31, etc.; by Express, etc. Kelly represents the highest type of a trotter, having fine size and the form and finish of a thorough-bred. For terms of service address

W. J. CARTER, Richmond, Va.,
Kelly will serve at my private stable, 1102 Hull street, Manchester, Va.

GREAT STAKES, 25521.

Record 2:20.

Sire of Captain, 2:16½; Foxhall, 2:19½; etc. Bay horse, by Biely Thornhill, 2:24; dam, Sweetstakes, by Sweepstakes and Great Stakes; sires speed and good looks.

Fee, \$25 the season.

Address W. H. NELSON,
1428 E. Franklin st., Richmond, Va.

Richardson Brothers,

613 Brook Ave., Richmond, Va.,

BUILDERS OF

Wagons and Carriages,

A select lot of business and pleasure Vehicles on hand.

Repairing neatly done. Orders by mail solicited.

BERKSHIRES

ANNEFIELD HERD

Contains the

Finest Blood Lines

In England and America.

Young Stock for Sale.

Inquiries cheerfully answered.

EDW. G. BUTLER, Annefield Farms,
Berryville, Virginia.

BERKSHIRE PIGS FOR SALE

We have on our Hollybrook Farm a fine lot of young Berkshire Pigs from 8 to 12 weeks old, for sale. These pigs are from registered stock, and are first-class in every respect. Our pigs have free range, with fine stream of running water through the hog pastures, and our stock is as vigorous and healthy as possible. Price either for boar or sow pigs, \$5 each, crated and delivered on cars, or to express office at Richmond. Address orders to HENRY W. WOOD, Box 330, Richmond, Va.



OUR herd represents the very best strains of imported Large English Berkshires. Choice stock at reasonable prices.

Address

Cottage Grove Farm,

P. O. Box 5, Greensboro, N. C.

BERKSHIRES.

On sale, fine, vigorous Boars and Sows, February and March, 1904, farrow. Very cheap at \$10 each until Sept. 15th. 3 Reg. Sows will farrow this month. The pigs, sired by MASON OF BILTMORE, II 8548, will be booked at \$5 each, or \$10 pair, delivered Charlottesville when 10 weeks old. NONE BUT BILTMORE BLOOD IN MY HERD. ROBERT HIBBERT, Charlottesville, Va.

Berkshires

Best ENGLISH and AMERICAN blood. Herd Boars: Columbus Lee VIII (brother of Combination); Workman of W. (sire, Jack of all Trades). Stock for sale at prices YOU CAN AFFORD TO PAY. H. W. FUGATE, Fugate's Hill, Russell county, Va.

THOROUGH-BRED....

**Berkshire Boars,
Dorset Buck Lambs,
Jersey Bull Calves.**

All stock in best of condition and guaranteed as represented.

F. T. ENGLISH, Centerville, Md.

A DRILL THAT EVERY GRAIN GROWER NEEDS.

The United States produces nearly one-third of the grain crop of the entire world. This great yield from the soil of America is due, in large measure, to the improved machinery used by the American farmer, and particularly to the method of sowing the grain; automatic grain drills being extensively used by the progressive grower.

A model machine of this description is the Pennsylvania Low Down Grain and Fertilizer Drill, invented and made by the A. B. Farquhar Co., Ltd., of York, Pa. This firm was the first to design and put on the market a low down drill, doing away with the cumbersome cog gear and substituting sprocket wheels and chains.

The Pennsylvania is a handy drill, simple in construction, and extremely light draft. It has the regulation four-foot driving wheels, but the frame is hung below the axle, making the hopper very low. It sows accurately under all conditions. The fertilizer attachment is constructed on a new principle, making it an absolute force feed. It sows the dampest brands of phosphate with ease and regularity.

The Improved Pennsylvania Low Down Drill is a pet speciality of the Farquhar people, and it well deserves the great success it has met with. The A. B. Farquhar Co. issue an interesting booklet about their drills, which is mailed free on application.

Akron, Ind., Aug. 14, 1904.

Dr. Jos. Haas, V. S., Indianapolis, Ind.:

Dear Sir:—About six or seven years ago my hogs all died from cholera and I did not have a hog of any kind on my place for two or three months. But not wishing to abandon the hog industry I then bought some fine and apparently healthy breeding stock and within a week after getting them on my place they took the cholera. I had little faith in doctoring hogs with this disease, but, through the influence of a friend, who recommended your remedy, I purchased some of it. My hogs were so sick they would not eat, but I mixed the remedy with a little warm milk and after many efforts finally succeeded in getting my hogs to eat it. In three days they were getting better, and in a short time fully recovered. They made me a fine lot of breeding stock, and I have some of their progeny yet. Have had no trouble with my hogs since until recently, when some of my young brood sows were taken sick. One died the day before I received your remedy, but the others have all fully recovered since I began feeding it. Yours truly,

CHAS. J. PETERSON.

"I," said the orator, "come of a good old stock, rooted deep in the soil—" "The only stock I ever heard of that rooted deep in the soil," interjected a farmer in the audience, "was hogs."

RED POLL CATTLE

Best for Milk, Butter and Beef.

Poland China Pigs.

Shetland Ponies.

Pure-Bred Fowls.

Arrowhead Stock Farm,

Charlottesville, Va.

PURE-BRED

BERKSHIRE

Pigs ready for delivery this month. Two months old and a nice lot they are. Correspondence solicited. H. SWINEFORD, Richmond, Va.

HAWKLEY STOCK FARM

Has for sale, a choice lot of

English Berkshires Pigs

Can furnish pairs not akin. A few young Boars ready for service; all of the choicest breeding. J. T. OLIVER, Prop., Allen's Level, Va.

Pure-Bred Registered

BERKSHIRE

Boar and Sow for sale. Price, \$25 each. Sow will farrow about last of October. Splendid young animals weighing about 250 pounds each. F. MAXWELL, CONNER, Box 316, Richmond, Va.

30 PURE-BRED

SOUTHDOWN EWES

lambs for sale. Price, \$15 each, October, 1904, delivery. This flock was originally purchased from Henry Webb, Babraham, Eng., and crossed from time to time with the descendants of Rams bought by John Hobart Warren from Lord Walsingham, of England. WM. JOHN, Linden, Va. (Mgr. Col. R. H. DULANY).

Meadow Brook

SHROPSHIRE.

For sale; very fine one and two year old pure bred SHROPSHIRE BUCKS; some very nice ewe lambs. C. A. SAUNDERS, Meadow Brook Stock Farm, Culpeper, Va.

REGISTERED

SHROPSHIRE SHEEP.

Only a few more of my flock of registered Shropshire sheep left: Rams, Ram Lambs, Ewes and one fine Ewe Lamb. Now is the time to buy at a very low price. Can mate them not akin. Get my prices before buying.

H. R. GRAHAM, Chestertown, Md.

25 REGISTERED

HOLSTEIN and GRADE

Milk Cows for sale. Most of them to calve this fall. H. W. MANSON, Crewe, Va.

[COTTAGE VALLEY STOCK FARM.]

FINE STOCK

FOR SALE LOW

7-8 and 15-16 GRADE ANGUS BULLS AND HEIFERS from 6 months to 2 years old. One bull calf half Angus and half Short-horn. Fine Buck Lambs out of Shropshire Ewes by Reg. Dorset Buck. Fine family milk cows fresh young and gentle. One pair splendid 1200 lbs. Bay Mares 6 yrs. old, first class all round farm teams and very good roadsters. Silver Lace Wyandotte Cockerels and Pullets at one dollar each.

W. M. WATKINS & SONS, Saxe, Va.

Aberdeen-Angus Bull Calves *For Sale*

Born as follows: Dec. 15, 1903; Jan. 30, 1904; May 15, 1904; June 2, 1904; Aug. 11, 1904. Calves will be kept with their dams until 9 mos. old. None sold younger, and NOT SOLD AT ALL AS BULLS, unless they turn out good specimens of the breed.

I shall also be ready to buy my herd bull, "ROCKBRIDGE ABDUCTOR," 40854, Nov. 1st. He will be 5 years old Dec. 2, 1904.

The two calves first mentioned are pure bred and very promising youngsters, but out of unrecorded dams; the three last are registered. I am willing to exchange "ABDUCTOR" or any of the above calves for a suitable herd bull, not less than 18 mos. old. B. F. DAY, Glasgow, Va.

MONTEBELLO HERD

ABERDEEN-ANGUS CATTLE.

FOR SALE—Registered Bull calves from 3 months old, up.

L. H. GRAY, Orange, Va**ROSEDALE HERD**

Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as low as good breeding will permit. Inspection of herd and correspondence invited.

ROSEDALE STOCK FARM, Jeffersonson, Va.**3 REGISTERED**

Aberdeen Angus Bulls,

6, 10 and 16 mos. old, for sale. Sired by the celebrated GOLD NUGGET, 29857. These bulls are grand individuals. Address BENVENUE STOCK FARM, Massaponax, Va.

Mention the SOUTHERN PLANTER in writing.

THE ANGORA GOAT.

Angora Goats should be pure white, and weigh at maturity 50 to 100 lbs. for females, and 100 to 125 lbs. for males. They get their growth in about three years, and live to be 10 to 15 years old. They breed once a year, and drop a kid in five months from service. If you have goats drop their kids in January, and lose any, the doe will go to the buck again, and drop in June or July. They are not as apt to have twins as sheep, but occasionally do. They are not apt to disown their kids, if goats have not too large a range; but, on the large range, the goat knows to be left behind the flock is to be left perhaps forever. While in enclosed pastures the doe realizes that the flock can not be far away, and stays with her kid. They hide their kids away, same as a cow her calf, and go to them to let them suck. I have shut a doe in the barn at night, when she had twins laying in a hollow tree in the pasture, and she made no fuss about them. The kids, after they get dry and filled with milk, will stand lots of cold.

Goats shear from one-half to nineteen pounds of mohair, according to breeding and condition of the goats, and it sells for from 15c. to \$3 per pound, according to length, freeness from kemp, etc. Usual price this year, 25c. to 35c. per pound; 50,000 pounds. Origan hair, said to be as good as any produced in the United States, changed hands at 34c. I received for my clip 34c. on board cars here.

Goats are browsers not grazers. Goats are hustlers to gather a living, but are also lazy animals. If brush and weeds are plentiful, a goat will go out, and in two hours will gather enough to last him 6 or 8 hours, and will then lay in the shade and chew his cud. They take all the first years' growth of bushes, weeds, etc. I see in my pastures where they have bitten off poke-berry stalk as thick as a man's thumb, and left nice blue grass, white clover and orchard grass ankle deep. They will completely kill all kinds of brush, except persimmons, shell-bark, hickory and black walnut; hickory and walnut they will eat as last resort, but persimmons, never. In winter, goats will peel almost all kinds of brush and saplings, except hickory. I have saplings 5 inches in diameter peeled 5 feet high. These are elm, bass-wood and maple. They dearly love sassafras, sumac, spice-wood, elm, bass-wood, chestnut, dogwood, maple, etc. In Virginia they will live on pine and cedar all winter, if fed a little grain. Goats should not be fed at the shed where they sleep; make them go out into the woods to eat their grain or fodder. Last winter I had three flocks, one of 21 bucks and wethers, in a brush enclosure of about six acres, with an old abandoned coal-bank for shelter; they going into the entries, which were dry; another of 100 at a place with a good bank barn, and 75 acres of brush,

PLEASANT VALLEY STOCK FARM Shorthorn

calves from fine milking stock.

Yorkshire Pigs

of prolific breed.

JAMES M. HOGE, Hamilton, Va.

**COOK'S CREEK HERD
SCOTCH - TOPPED
SHORTHORNS...**

Heid Headed by Governor Tyler, 188548, 1st prize aged bull at Radford Fair, Young Bulls and heifers for sale. Inspection and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

SHORT HORN BULLS

for sale, from 3 to 20 mos. old; sired by VERBENA'S CHAMPION, No. 129881, and ROYAL CHIEF, No. 185432. Some good POLAND CHINA spring pigs and 2 nice fall boars. All stock eligible to record. Rare bargains for quick buyers.

WM. T. THRASHER, Springwood, Virginia,

JERSEY BULL

an inbred grandson of EXILE OF ST. LAMBERT (who has more than 90 tested daughters in the list) for sale or exchange. He is 3 years old, and all right. A. H. HODGSON, Athens, Ga., or F. M. Hodgson, West Falls Church, Va.

A FINE

Jersey Bull

for sale. 3 years old and registered; also 1 yearling and 1 this year's bull calf, entitled to registry. J. B. JOHNSON, Clover Hill Farm, Manassas, Va.

—The Woodside—

Jersey Herd. Bull Calves and Yearlings Richly Bred.

DAVID ROBERTS, - - Moorestown, N. J.

Swift Creek Stock and Dairy Farm

Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS AND HEIFERS.



None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 4 to 6 months old, \$25; Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

T. P. BRASWELL, Prep. Battleboro, N. C.

about one-eighth mile from barn. Another bunch of 23 at home, with straw-stack and barn. The 21 were fed about one-eighth of a mile from coal bank; the 100 were fed at barn, and the 23 could not get out of yard. The 21 peeled brush all winter, the 100 did not peel any until I took to feeding them out in the woods, the 21 would not eat either corn fodder or straw, and lived on bark and the little corn I gave them, and did fine. The 100 just laid around the barn and ate straw, corn fodder and their grain, and did no good until I compelled them to go out for their feed. When once away from the barn they would stay out and browse all day, but, rather than start would almost starve.

Goats can be turned with almost any kind of fence. An ideal goat fence is barbwire, with board at bottom, or some of the 2-foot woven wire hog fences, with a barbwire on top, makes a good fence; but one board at bottom adds to all fences for goats, as they cannot creep under so easily.

Never use a diamond mesh fence for goats, as they get their head and horns through and get fast. Never have perpendicular wires less than one foot apart. A rail fence of 8 rails high will turn most of goats, but it must have no lock at the corner. A rail fence with two stakes at each corner, wired together across the fence with some barb wire, makes a very good goat fence; put barb wire to the stake on the side of the fence next to the goats, about six inches above the top rail, and on outside of stakes, so when goat goes to climb upon the fence he will run against the barbwire.

The flesh of the Angora Goat is superior to mutton; the skins make beautiful rugs, and can be tanned at home and colored any color you wish and retain their lustre.

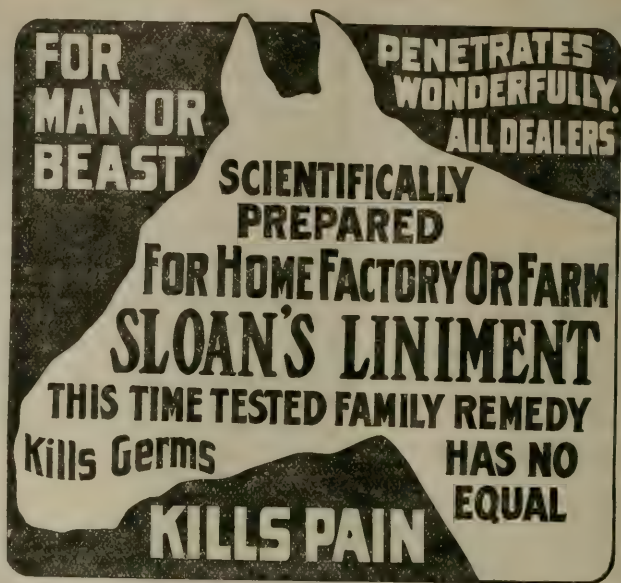
Goats will do well with all kinds of stock but hogs. They will not eat anything that the hogs have touched. No stock objects to goats, and cattle will feed after them and do well; also horses.

Some writers claim that 30 Angora Goats will clear as much land in a year as a man with a mattock. No sprouts on land cleared with Angora Goats.

J. H. HARPSTER.

SHEEP AND SHEEP DIP RECORD.

Messrs. William Cooper & Nephews, makers of Cooper Sheep Dip, send us word that they came out victorious at the Royal Show of England, which was held last month. They won the first prize for a Shearling Shropshire ram and first prize for a pen of three Shearling Shropshire ewes. They also won a good number of seconds and thirds. A census taken on the show ground showed that of the 1,075 sheep exhibited 998 had been dipped in Cooper Dip; of the 125 exhibitors, 115 were users of Cooper Dip.



FOR MAN OR BEAST **PENETRATES WONDERFULLY. ALL DEALERS**

SCIENTIFICALLY PREPARED

FOR HOME FACTORY OR FARM

SLOAN'S LINIMENT

THIS TIME TESTED FAMILY REMEDY

Kills Germs **HAS NO EQUAL**

KILLS PAIN

-- WE SUPPLY --

ALFALFA BACTERIA

in the shape of

INFECTED SOIL

from an old two acre Alfalfa plot which has given us 3 or 4 good cuttings yearly for the past five years, and is still doing well. Price, \$1.00 per bag (in 4 bag lots) of about 100 lbs.; more than 4 bags, 75 cents each; f. o. b. Midlothian.

J. B. WATKINS & BRO., Hallsboro, Va.

ALFALFA

The Most Useful and Profitable Crop you can grow. The best time to sow (in the South) is from August 15th to September 15th. Prepare your ground carefully, and to insure

a stand USE ALFALFA BACTERIA INFECTED SOIL as recommended by the Agricultural Experiments Stations.

You can secure enough of this infected soil to inoculate ONE ACRE OF GROUND for \$1.00 per bag (about 2 bushels) F. O. B. EWELL FARM.

Send in your orders now and shipment will be made when you are ready.

A booklet, giving practical directions for raising Alfalfa sent with each order.

Address GEO. CAMPBELL BROWN, Ewell Farm, Spring Hill, Maury Co., Tenn.

HEEBNER'S "Union" Feed and Ensilage Cutters
cut, crush and shred, making all the corn stalk palatable. Stock relishes it—none wasted. Fodder equals hay in feeding value and the same ground grows two tons to one of hay. The ears are clear grain. Get the real value from your corn by using the only up-to-date fodder machinery. With shredder attachment (6) extra. You have three machines in one. Write for booklet.

HEEBNER & SONS, 25 Broad St., Lansdale, Pa.



STOCK CATTLE AND STOCK SHEEP



Long Distance Phone No. 2125.
Address: P. O. Box 204.
Pens: Union Stock Yards, Richmond, Va.

The season is coming for you to begin buying stock cattle or feeding cattle. If you are in doubt when and where to get them, write me. I can fill your order for any kind of stock, steers or heifers, you want, any kind of feeders you may want, and I will fill it correctly. Can furnish high grade and pure bred stock bulls (not registered) of any breed you may desire, at reasonable prices. If you want stock or feeding sheep, I can sell you ewes from \$2.50 to \$4.50 each, according to age, breeding and quality. **SOME FANCY BLACK FACES** at \$5 each. Good stock rams from \$7 to \$20 each. I will please you in any kind of stock I may sell you. If you have any kind of stock to sell, ship it to me. I **GUARANTEE HIGHEST MARKET VALUE**. I can place it because I have orders for all kinds. **SPECIAL attention GIVEN VEAL CALVES BY LOCAL TRAINS.** **NO CONSIGNMENT TOO SMALL—NONE TOO LARGE.** I GIVE ALL MY PERSONAL ATTENTION. **ACCURATE WEEKLY QUOTATION.**

ROBERT C. BRAUER, Successor to
Brauer Cattle Co., Richmond, Va.

CEMENT RESOURCES OF THE VALLEY OF VIRGINIA.

Mr. Charles Catlett's paper on the "Cement Resources of the Valley of Virginia," recently published by the United States Geological Survey, in its bulletin (No. 225) entitled "Contributions to Economic Geology, 1903," is especially significant, as it is the first publication concerning the possibilities of cement manufacture in this particular field.

That section of Virginia which lies west of the Blue Ridge is bountifully supplied with materials suitable for use in the manufacture of Portland cement. All the conditions of the Lehigh district of Pennsylvania are duplicated in this region, with the additional advantage that the coal supply is much nearer at hand. At present only one Portland cement plant is in operation in Virginia, but, in view of the natural advantages offered by the western part of the State, it seems probable that a great extension of the industry will soon take place.

The argillaceous limestones of the Trenton formation, which furnish the well-known "cement rock" of the Lehigh district of Pennsylvania and New Jersey, are well developed throughout the Valley of Virginia. These limestones, with the overlying Hudson slates and shales, occur in a belt closely paralleling and in places touching the Valley Branch of the Baltimore and Ohio Railroad from the State line to Strasburg. From that point they lie close to the Southern Railway as far as Harrisonburg, and again from Harrisonburg to a point some miles south of Staunton, Va. they are near the Baltimore and Ohio Railroad. The points that naturally seem most desirable as sites for cement plants are those which give ready access to the coal fields, with favorable opportunities for the shipment of the finished product. It is thought, therefore, that the line of the Baltimore and Ohio Railroad between Harper's Ferry and Winchester, and Strasburg Junction, Riverton, Harrisonburg, and Staunton are the points in this State which would be

SUNNY HOME HERD OF Aberdeen Angus Cattle

has been reinforced for sale by the **WILLOW OAKS HERD** (property of Mr. T. B. Fitzgerald, former President of Riverside Cotton Mills, Danville, Va.). This herd was founded in 1902 by the purchase of a car load of the best females money would buy in Central Illinois. One of our customers writes as follows:

UNION, S. C., June 4, 1904.
DEAR FRENCH,—I have been at my farm and have taken several good looks at the two heifers. They are beauties, especially Miss Stubbs 2nd, and I am proud of them. Enclosed is my check for \$50 in payment for them. The bull, Carolina's Gay Lad, that you sent me last fall is one of the finest looking fellows I ever saw—is a daisy. Very truly,
W. R. WALKER.

Mr. Walker owns the largest herd of Angus in South Carolina. We make it a point to furnish the above-described sort of cattle. Write for circular and prices to

A. L. FRENCH, Byrdville, Va.

Station, Fitzgerald, N. C., on D. & W. Railway, 24 miles from Danville.



—The Delaware Herd of— ROYAL ANGUS CATTLE

is not surpassed either in breeding or individual animals, by any herd in the East. At the head of our herd is **PRINCE BARBARA, 68604**, the son of the great \$9,100 Prince Ito. Females of equally choice breeding. Write your wants. Remember, we take personal care of our cattle; keep no high priced help; incur no expense of exhibiting; all of which enables us to offer stock at equitable prices. Send for pamphlet.

MYER & SON, Prop., - Bridgeville, Del.

Reg. HOLSTEIN-FRIESIAN

CATTLE of the Netherland, De Kol, Clothilde, Pietertje and Artis families. Heavy milkers and rich in butter fat. Stock of all ages for sale.

Reg. BERKSHIRES From noted strains; Imported Headlight, Lord Highclere and Sunrise.

—DORSET SHEEP—

B. PLYMOUTH ROCK CHICKENS,

N. & W. and Southern R. R.

T. O. SANDY, Burkeville, Va.

—URY STOCK FARM HERD OF— HOLSTEIN-FRIESIAN

DE KOL 2D BUTTER BOY 3D No. 2 heads our herd; his breeding and individual excellence are second to none. A few COWS, YOUNG BULLS and HEIFERS from our best cows, for sale. All the leading families represented.

ENGLISH BERKSHIRE pigs by such Boreas as MANOR FAITHFUL, Imp.; wt. 1100 lbs.; FANCY DUKE, a double grandson of LOYAL BERKS; ESAU PRINCESS OF FILSTON, by ESAU, Imp. THOS. FASSITT & SONS, Sylmar, Md.

most attractive for cement factories. Mr. Catlett discusses in detail the advantages and disadvantages of the various feasible sites for cement plants. He gives analyses of the limestones found at each point.

The only Portland cement plant in the State is the plant of the Virginia Portland Cement Company, which is located at Craigsville. The conditions found there are typical of those existing at a number of places either on or near the Chesapeake and Ohio Railway, both in Virginia and West Virginia. Wherever these same beds of limestone are found in a good state of development, an opportunity, more or less valuable (the value depending upon the local conditions), is presented for the manufacture of cement.

THE ROSEMONT HEREFORDS.

The Rosemont Herefords occupy an original and unique position in the breeding world. The business is conducted on advanced lines, keeping pace with modern methods and requirements. Mr. Lee Roy Stacy, of Missouri, has charge of the business management, and is an expert in feeding, fitting, breeding, pedigrees, publicity, etc.

This herd numbers seventy head, and has been gathered without regard to cost. The cows are a grand lot, by such noted sires as Dale, Earl of Shadeland II., Perfection, March On, Acrobat, Corrector, Beau Donald, Crusader, Lamplighter, Salisbury, Conquero, and others. The great show cows, Bennison and Georgina, are also in the herd. The herd is headed by the great Acrobat, 68460, the greatest living Hereford sire.

Mr. Stacy is anxious for interested parties to visit Rosemont and see the stock for themselves. A trip to the beautiful Shenandoah Valley, in which Berryville is situated, is of itself worth any one's time. If you cannot go to the farm, write for what you want, and also ask for "A Brief History of Hereford Cattle," which also contains an article on the "Future of Herefords in America." It will be mailed free. Parties who cannot pay cash for stock will be accommodated by the instalment plan. Look up the half-page ad, of this farm in this issue.

WHAT HAPPENED.

Mary had a little lamb

With fleece as white as snow;

The rest of all the tragedy

Perhaps you may not know.

It followed her to school one day,

According to the book;

Alas, the school where Mary went

They taught her how to cook!

—September Lippincott's.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

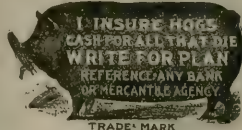
YOU MAKE NO MISTAKE

WHEN YOU DEPEND ON DR. HAAS' HOG REMEDY

to prevent and arrest disease in your herd. Twenty-eight years success, and to-day used by thousands of our leading breeders.

I INSURE HOGS, AND PAY CASH FOR ALL THAT DIE

when it is fed as a preventive. Full particulars in "Hogology." Prices, 25-lb. can, \$12.50; 12½-lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.



"HOGLOGY" FREE. LATEST REVISED EDITION.

I have just rewritten and revised "Hogology," my book about hogs, adding much matter on new and important subjects, and making it indispensable to those desiring information on this great subject. Sent FREE if you mention Southern Planter when asking for it. The only scientific book of the kind ever published.

JOS. HAAS, V. S., Indianapolis, Ind.

Large English Berkshires.

BOARS ready for service.

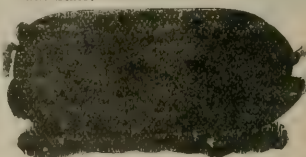
Pigs ready to ship.

Bred Gilts.

Forest Home Farm,
Purcellville, Va.

BERKSHIRES! ✿ ✿ BERKSHIRES!

The following up-to-date stockmen think my ROYAL BERKSHIRES the finest the world can show. I could print thousands of the same opinion, but I take only one from each State:



P. H. Rudd, Marlboro Harbor, N. Y.; Col. F. C. Goldborough, Easton, Md.; J. M. Venable, Farmville, Va.; Edgar Long, Graham, N. C.; John C. McAfee, Chester, S. C.; Dr. S. W. Pain, Dandridge, Tenn.; President Howdie Plimley, Augusta, Ga.; E. C. McKinney, Bassinger, Fla.; General Thos. T. Munford, Uniontown, Ala.; W. W. Cornelius, Blue Springs, Miss.; J. M. Gann, Varnada, La.; E. P. Van Horn, Toyah, Texas; D. C. Lester, Hatfield, Ark.

Take no risk; confer with these people, and order direct from the veteran breeder.

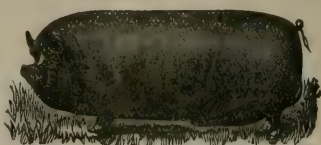
THOS. S. WHITE, Fassifern Stock Farm, Lexington, Virginia.

Five car loads bright Timothy Hay for sale, cheap.

We **positively guarantee** to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

Proprietor of the Bridge Creek Stock Farm, Warrenton, N. C.



IS YOUR FARM FOR SALE?

If so, list it with us. No sale, no charge. Largest list of farms for sale in Virginia. Write for Free Catalogue.

R. B. CHAFFIN & CO., (INC.) Richmond, Virginia.

REPORTS.

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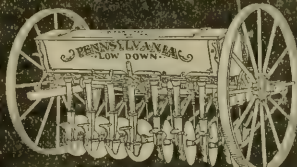
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Virginia Climate and Crop Service,

Best Machine on the Farm



PENNSYLVANIA
Low Down Grain & Fertilizer Drill
(DISC OR ROE)

The Original and Only Perfect Low Down Drill. Large hoppers; standard four foot wheels, with very low frame and hopper. Frame is hung below the axle. That's the secret. No cog gears to bother with. All chain drive direct from axle. Quantity of grain to be sown, and fertilizer, instantly regulated while drill is in motion. Positively the simplest, most accurate and lightest running drill on the market. Guaranteed to do satisfactory work. Write for FREE booklet. A. S. FARQUHAR CO., Ltd., York, Pa.

Blue-Blooded Berkshires.

Two of my splendid brood sows, GEORGIA'S HIGHCLERE, #6136, and CAMEL, #4085, are just about to farrow, being in pig to my great Boar COLUMBIA, #6027. If you want something really choice and royally bred, you had better communicate with me at once. I am expecting large litters, as usual, but I will not have enough pigs to go around.

COLUMBIA, sired by FIRST CATCH F, is an imported Boar, and one of the best in the U. S. both in breeding and individuality. GEORGIA'S HIGHCLERE is of the best Highclere breeding, and would be very hard to beat in the show ring. CAMEL is an imported granddaughter of the celebrated Loyal Berks, and is, therefore, most fashionably bred. F. M. HODGSON, West End, Va.



GLENBURN FARM BERKSHIRES

This herd is composed of four royally bred, imported sows, and an imported boar from the celebrated herds of Mr. Fricker and Mr. Hudson, England, and selected American bred animals from Baltimore and other noted herds. Dr. J. D. KIRK, Importer and Breeder, Roanoke, Va.

THE - OAKS - STOCK - FARM.

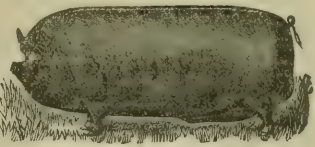
A. W. HARMAN, Jr., Treasurer State of Virginia, Prop. Richmond, Va.

We breed and ship the FINEST STRAINS of

Large ENGLISH BERKSHIRES

for less money than any firm in the South, quality considered. Every pig shipped possesses individual merit. Pedigree furnished with all stock. Kill or sell your scrubs and buy hogs that will pay. For prices and description, address

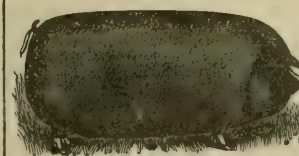
ALEX. HARMAN, Mgr., Lexington, Va.



TAMWORTH and POLAND CHINA

Pigs from registered stock, 8 weeks old, \$5.00. A few nice POLAND CHINA Boars ready for service, for \$10 to \$15.

J. C. GRAVES, Barboursville, Orange Co., Va.



POLAND CHINAS

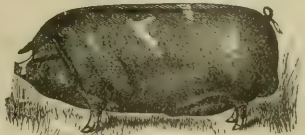
I have now for sale a fine lot of pigs, also boars ready for service, gilts and bred sows. I have in my herd hogs closely related to such hogs or Ideal Sunshine, Great Chief Tecumseh, Royal Racket and Anderson's Model, also Shropshire Sheep and Short Horn cattle. All stock guaranteed as represented or may be returned at my expense. Farmers prices.

J. F. DURRETTE, Birdwood, Albemarle Co.

Registered

Poland Chinas.

Some choice pigs, beauties of the best blood this country affords. Also some fine boars ready for service. Stock guaranteed as represented. Prices low for such quality of stock. W. M. JONES, Crofton, Va.



- Richmond, Va. Report for July, 1904.
- South Dakota Experiment Station, Brookings, So. Dak. Bulletin 84. Report of Investigations at the Highmore Station for 1903.
- Bulletin 85. Early Garden Peas.
- Bulletin 87. The Western Sand Cherry.
- Bulletin 88. Breeding Hardy Fruits.
- West Virginia Experiment Station, Morgantown, W. Va. Bulletin 92. Commercial Fertilizers. Report for 1903.
- Wisconsin Experiment Station, Madison, Wis. Twentieth Annual Report.
- Wyoming Experiment Station, Laramie, Wyo. Bulletin 12. Ground Squirrels.
- Government of the Philippines Islands, Department of Interior, Manila. Bureau of Agriculture Magway Cultivation in Mexico.
- Imperial Department of Agriculture for the West Indies, Barbadoes. W. I. A, B, C of Cotton Planting.

THE FONTAINE SHOCK BINDER.

Farmers are beginning to think of corn harvest during this month. Unless all signs fail, the harvest will be about the largest that this section of the country has ever seen. It therefore behooves every one to take extra precautionary measures for the proper handling of the crop so as to save every particle of it. If this be done, there will not be such a shortage of long feed during next winter as was experienced by a large number of stockmen during the past winter. The first thing to do with the corn crop at cutting is to see that it is shocked properly. One of the best things to help shock corn is the Fontaine Shock Binder. One man can operate the little device, and we undertake to say that if a shock is tied at the proper height with this binder no wind short of a tornado will upset the shock, nor will any ordinary rainfall reach its interior. Look up the ad. and get two or three of these binders and try them.

ROCKBRIDGE BATHS.

We are in receipt of a neat pamphlet setting forth the merits of this famous summer and winter resort, which is owned by our friend and subscriber, E. C. Carter, Esq., of New York city. The wealth and refinement of the continent have visited this famous hostelry and springs for generations. It is better equipped and more convenient of access, and consequently better patronized, than ever.

"Yes," said Henpeck, "the thing that impressed me most in Egypt was the mummy of one of the ancient queens."

"What was remarkable about it?"

"The fact that they could make her dry up and stay that way."



IF YOU HAVE ANYTHING TO BALE
There's a Dederick Press Made to Bale It

There's a Dederick Press made for every kind of material—hay, straw, manure, cotton, coffee or wool—and to convert it into bales in the most efficient manner. It's the largest and most powerful baler ever made. A press of moderate cost and maximum utility is

DERICK'S
"Always Ready"

Always ready to handle—always ready to move. Simply hitched to the truck pole and hauled to the wagon and is ready for work. Requires no connection, and it's ready to make. Our illustrated catalogue describes all these different presses. It will pay you to send for one only. It's free.

P. K. Dederick & Sons, 57 Tivoli St., Albany, N.Y.

SPRING LITTERS.

We have now coming ready for shipment seven litters of

LARGE YORKSHIRE PIGS

All recent experiments place this breed in front, as the best and most profitable bacon hog. They will raise 40 per cent more pigs and they will grow faster and make more pork in a given time than any other breed.

Also BULLS, YOUNG COWS and HEIFERS from our great JERSEY COWS.

BOWMONT FARMS. Salem, Va.

We Are Still in the Business...

"HILL TOP" Stock at Shadwell, Va.

Having changed our residence, we brought with us and have for sale a choice lot of HILL TOP stock.

Southdown and Shropshire Sheep, Berkshire Hogs and B. B. R. Game Chickens.

Our Berkshire Pigs are now closely sold up, but we have a few left; will have a fine lot ready to ship by September 1st. We will be glad to serve our old friends and are always glad to make new ones.

We have won more premiums on sheep and hogs at State and County Fairs than all other breeders in Virginia combined.

H. A. S. HAMILTON & SONS, Shadwell, Va.

For Sale 10 Reg. Jersey Heifers and 10 Reg. Guernsey Heifers.

All due to calve this fall and winter.

Also several first-class GUERNSEY BULL CALVES, BERKSHIRE BOARS, SOWS and PIGS. Can furnish them not akin. Several first-class watch dogs, and also Fox Terrier Puppies. Can be inspected if days' notice is given.

M. B. ROWE & CO., Fredericksburg, Va.

CHESTER WHITES

Registered Herd—First Premium stock; largest and most prolific hog on record: 3 Sows 41 Pigs; breeding Stock 400 to 700 pounds; easy feeders and quickly developed. Sows, Boars and Pigs for sale. My time to this breed exclusively. Only strictly first class stock shipped.

P. N. FUNKHOUSER, Winchester, Va.
Reference: Farmers and Merchants National Bank, Winchester, Va.



THE EVERLASTING TUBULAR STEEL PLOW DOUBLETREES

Also manufacturer of
Farm Wagon
Doubletrees,
Neck Yokes
and Singletrees



Send for our No. 8
Catalogue for 1904
Contains everything of
Interest to Dealer or User
of Whiffletrees.

PATTERN No. 105 EQUIPPED WITH FORGED TRIMMINGS.

Guaranteed not to break or bend. Furnished with rings or hooks for trace attachment. Sample orders sent to responsible parties on trial.

Pittsburg Tubular Steel Whiffletree Company, MANUFACTURERS ^{SOLE} **Pittsburg, Pa.**

MAGAZINES.

The September St. Nicholas brings interesting chapters in the two serials, Gensai Murai's "Kibun Daizin, or From Shark-Boy to Merchant Prince," the story of a Japanese boy for American lads, and Mary Constance Du Bois's charming tale for girls, "Elinor Arden, Royalist." The illustrations for these stories, by George Varian and W. Benda, are exceptionally good, even for St. Nicholas.

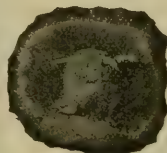
Hugh M. Smith tells interestingly of "Brittany, the Land of the Sardine." Lida Rose McCabe describes the adventures of "A Citizen of the Deep." "The Country Fair" is the account of how some girls and boys succeeded in carrying out a novel scheme. Julian King Colford's "American Memorials in London" tells and pictures facts every one should know. "A Goose Hunt by Steamer" is a jolly account of a jolly expedition, and Maria Brace Kimball describes entertainingly "The Children of Zuni." There are short stories by Caroline M. Fuller, "The Pursuit of the Calico Cat," S. W. Hovey, "Nothing but a Girl," Mabel Clare Craft, "The Killing of Storm."

The frontispiece of the September St. Nicholas is a full-page reproduction of the painting of Lady Betty Delme and her children, and the number is crammed with gay and pretty verse: "Peter Puff-and-Blow" "The Difference," "Thirteen," "Your's Severely," "The Holly-Tree Wight," "What's in a Name" "A Moonlight Effect," "The Gay Grecian Girl," "Which" "Folliloo," "Tom's Return" and "The Enterprising Tapir." The departments, Nature and Science, the St. Nicholas League, Books and Reading, the Letter-Box and the Riddle-Box, are full of interest and profit, as always.

Francis Willing Wharton has a new novelette in the September number of Lippincott's Magazine, entitled "The Deep Waters of the Proud." This title is, we believe, taken from one of the Psalms of David, and the tale throughout excels in power and interest.

The half-dozen short stories of the month begin with an especially human one by Alden March, entitled "Help Wanted, Females." In it there is confusion of typewriters (of the fem-

FARMERS, READ THIS! GREAT HEREFORD OFFERING



My present offering of pure bred, Registered Herefords, consisting of BULLS, BULL CALVES, COWS and HEIFERS, is the best I ever had. If you want some really good cattle and cannot afford the outlay for the establishment of a herd of pure breds, do the next best thing and get a pure bred HEREFORD BULL to cross on your native cows. MARQUIS OF SALISBURY 25TH, by Imp. SALISBURY, and out of QUEEN LIL, is especially recommended for this very purpose. \$75 will get him. Calves by this Bull should fetch twice as much at 6 weeks old as a scrub calf; if kept for beef, they will be ready in one-third to

one-half less time; will weigh from 300 to 500 pounds more on the same feed; will bring a cent or two more per pound on the market. Two or three calves will pay for your bull. There is no exaggeration in this statement.

It is difficult and expensive to fully describe and price stock in an advertisement, so I suggest that you come to Castalia (will meet you at Keswick on notice), and personally examine my stock. You will be more than pleased. I have spent money unstintingly to get the best of the breed. This does not mean that I charge long prices. I positively do not. Write me what you want if you cannot come. Satisfaction guaranteed.

MURRAY BOOCOCK, Keswick, Alb. Co., Va.

Bacon Hall Farm.

Hereford Cattle :- Berkshire Hogs

REGISTERED—ALL AGES.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

E. M. GILLET & SON, - Glencoe, Maryland.

Registered • Herefords,

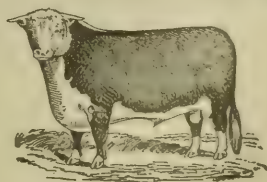
Herd headed by the Grand Champion

PRINCE RUPERT, 79539.

Young stock for sale. Inquiries
cheerfully answered.

EDW. G. BUTLER, Annefield Farms,

Berryville, Virginia.



PRINCE RUPERT, 79539.

DON'T BUY GASOLINE ENGINES

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline engine superior to all one cylinder engines; revolutionizing gas power. Costs Less to Buy and Less to Run. One-hp. easily started. No vibration. Cable mounted on any wagon at small cost—portable, stationary or traction. Mention this paper. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfgs. Bldg. & 15th Sts., Chicago. THIS IS OUR FIFTY-FIRST YEAR.

mine gender) and a happy conclusion. Ina Breevoort Roberts, the popular author of "The Lifting of a Finger," contributes one of her fetching love-stories called "The Release." "Graduates of the School" is by Cyrus Townsend Brady and is an extraordinarily good tale of yellow journalism. Caroline Lockhart writes "Sharper Than a Serpent's Tooth," which is a story of Labrador and a thankless child. "At the Sign of the Waxen Woman," by Clinton Dangerfield, is a lively story of the pursuit of a bride and the outwitting of an unwelcome bridegroom. "The Regeneration of Isaiah" closes a series of amusing darky sketches by Ella Middleton Tybout, which have been running through the magazine for some months. These have attracted attention sufficient to demand their publication in more permanent form.

Following its "Western," "Fiction" and "Midsummer Holiday" numbers, the September number of The Century will likewise have a special character. It is called a "Round-the-World" number, and the name is justified by the geographical distribution of the text and pictures. Appropriate to this idea are two drawings by Castaigne, "The Flying Dutchman" and "The Wandering Jew," which are printed as frontispieces.

The opening article is the first illustrated account in English of the canonization of Saint Seraphim, the Russian popular saint, at Sarov last August, in which the Czar and Czarina took part. It is entitled "The Russian Lourdes."

Other articles, which can only be enumerated, are "Japan's Highest Volcano," an account of an ascent of it, by Herbert G. Ponting; "The Nelicator of Arctic Alaska," by Edward A. Mclhenny; "Hidden Egypt," recording the first visit by women to the Coptic monasteries of Egypt and Nitria, by Agnes Smith Lewis; "The Nall of the Universe," an account of the Emperor of Java and his court, by Ernst von Hesse-Wartegg; "Antarctic Experiences," by the explorer, C. E. Borchgrevink; "Round-the-World at the World's Fair," by Walter Williams, with pictures of a curious sort of exhibits or natives from Siam, the East Indies, Africa, Patagonia, China, Mexico, Japan, Spain, Greenland, and the Philippines. South Africa is represented by a sketch, "The Locusts of Natal," by Mark F. Wilcox; Spain by Cole's beautiful engraving of a painting by Velasquez, and France by Degas's "Portrait of a Lady," recently bought by Mrs. Gardner for her Boston collection.

The fiction has also a wide distribution of scene. "Corporal Sweeney, Deserter," by Ralph D. Paine, is a story of China; "The Alchemy of Illusion,"

HIGHLAND STOCK FARM.

PURE-BRED STOCK A SPECIALTY.

SPECIAL PRICES for this month on

Shorthorn Cattle, POLAND CHINA PIGS, SCOTCH COLLIE PUPS.

All Stock Recorded. - - - Write for Prices.

HENRY S. BOWEN.

Witten's Mills, Tazewell Co., Va.

CISMONT DORSET S

CISMONT STOCK FARM offers well developed young Dorsets of the best blood of England and America.

Prices Reasonable.

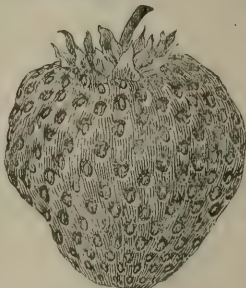
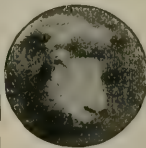
G. S. LINDENKOH, Keswick, Albemarle Co., Va.

EDGEWOOD STOCK FARM DORSETS!

You men in the early lamb business need Dorset blood. No lamb grows like a grade Dorset. Grade Dorset ewes will lamb in December.

One cross will bring results. Try a Dorset ram. Our fall lambs are beauties. Write us or come to see them.

J. D. and H. B. ARBUCKLE, Maxwellton, Greenbrier, Co., W. Va.



Save Half in Fruit Trees

By Buying Direct from Nursery Without Profit to Agents.

Choicest stock of Fruit Trees in the country. All the large, improved Peaches affording luscious fruit from May to November. All the superb apples and pears covering the whole year. Mammoth delicious plums, cherries, grapes, figs, strawberries, dewberries, blackberries, raspberries, gooseberries, currants, asparagus, rhubarb, etc., etc. Largest shippers of strawberry plants in the World.

All trees, etc., delivered FREE. 130 page manual telling how to grow all kinds of fruit. Free to buyers.

Write now for catalogue for fall planting. Mention this paper.

CONTINENTAL PLANT CO., Kittrell, N. C.

...Strawberry Plants...

All the standard sorts, from earliest to latest, after Sept. 1st, at 50 cts. per 100, or \$3 per 1,000. Catalogue on application.

J. B. WATKINS & BRO., - Hallsboro, Virginia.



by Alice Brown Morrison, is a story of travel in Italy; the scene of this part of "The Sea-Wolf" is the Russian Pacific, while America is represented by Dr. Weir Mitchell's "Youth of Washington, Told in the Form of an Autobiography;" "The Great American Pie Co.," by Ellis Parker Butler, and another of Miriam Michelson's stories of the Nevada Madigans, entitled "A Merry, Merry Zingara." There is also an article on "Ballooning as a Sport," by George De Geofroy, illustrated by Andre Castaigne, the prospect being that before long there may be a club for ballooning in America as there now are similar clubs in Paris and Rome.

The poems are for the most part in keeping with the spirit of the number.

We have reserved to the last what is probably the most important article in the number, Professor Henry Fairfield Osborn's first paper in his group on "Fossil Wonders of the West." This paper is devoted to the dinosaurs of the Bone-Cabin Quarry in Wyoming, being a description of the greatest single find of fossils in the world, and of the scientific work which has been done there during the past few years. It will be in the nature of a revelation to the scientific world, and, like most of the other articles in the number, is fully illustrated.

The Review of Reviews, in the Presidential campaign, fills a place in magazine literature that no other publication attempts to fill. It is a complete and accurate record of all the strategic moves in the game of national and State politics. The July and August numbers dealt with the careers and personalities of the candidates; the September number treats of the plans and methods of the managers, the personnel of the national committees, and the actual work of the canvass. The complex situations in Missouri and Colorado, as well as the problems of national party organization in the opposing camps, are discussed editorially, while an illuminating article on Chairman Taggart and the Democratic committee organization is contributed by James P. Hornaday, with a similar study of Chairman Cortelyou and the Republican campaign plans by Albert Halstead. A unique addition to the literature of the campaign is the interesting summary of European press comment on President Roosevelt by Louis E. Van Norman, with reproductions of foreign cartoons. Elsewhere in the magazine appear many American cartoons depicting various phases of our great quadrennial battle for votes. But a good deal more than half of the September number is devoted to non-political topics. Herbert Croly writes about the effect on metropolitan interests of the opening of the New York rapid-transit subway next month; President Butler, of Columbia, sets forth the educational worth of the St. Louis world's fair, with especial reference to the great September congresses

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of science and art; M. C. Sullivan describes the remarkable achievements of the Japanese in battlefield communication, especially in the use of the field telephone and telegraph; a Japanese writer sketches General Kuroki; Chang Yow Tong gives a Chinaman's views on the "Yellow Peril"; Alvan F. Sanborn contributes an appreciation of "Two French Apostles of Courage in America,"—Charles Wagner, author of "The Simple Life," and Paul Adam,—both of whom are about to visit the United States; and there are interesting illustrated papers on land reclamation in California and Holland by A. J. Wells and Consul-General Frank D. Hill, respectively. The methods pursued by the General Education Board in obtaining information about Southern school conditions are summarized by W. H. Heck.

IN FLY TIME.

A wealthy Jew had decided to take a long-contemplated vacation. With an eye to business, he called his son to him ere his departure and instructed him carefully and in detail how he wished his affairs conducted during his absence.

"Now, Isaac," said he, "I want you to be very particular mit the suits. I have regulated the price this way: Every dot on the price-mark means a dollar. Von dot means von dollar; two dots, two dollars; three dots, three dollars. Now, my boy, save the price-marks and take good care of the store, so your old father will be proud of you!"

And so the old Jew went away and stayed two weeks. Upon his return he sought his son eagerly.

"Vell, Isaac, and how has business been?"

"Very good, father. I've sold twenty-seven suits."

The aged Jew held up his hands in amazement. "Twenty-seven suits! Oh, Isaac, and how much money did you get?"

Isaac showed a prodigious sum. Again the old man lifted his arms. "Vat! all this money, and nobody come back!"

"No, father, nobody came back."

"Isaac, you have saved the tags? Give them to me."

Slowly and critically he examined the bits of pasteboard. Then a great light illuminated his face.

"Oh, Isaac!" he cried, "thank God for dose little flies!"—September Lippincott's.

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Messrs. E. M. Gillet & Son, proprietors of Bacon Hall farm, report the following recent sales: Hereford bull to Louis de La Croix, of North Carolina; Berkshire boar to the Maryland Experiment Station; Berkshire sow to W. S. Nelson, of Virginia; Muscovy ducks to L. K. Lynn, of Virginia; all of which were satisfactory.

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Secretary F. D. Coburn, of the Kansas Board of Agriculture, who has been very actively and helpfully identified as an official with the development of this and several of the more recent valuable agricultural plants, has in this practical treatise presented all the best that is known up to the present time on the growth, uses and feeding value of alfalfa, thoroughly discussing the subjects in all their bearings, in language so plain as to be clearly understood even by those who were before entirely unfamiliar with this remarkable plant. Although in the main treating the matter in a general way, it is dealt with as well from the standpoint of each State where it has been experimented with, and gives the observations of both farmers and scientists there who have paid it closest attention. No such fund of fact and experience has before been made available to the public upon this subject, which is sure to be of interest to every farmer in the country. Mr. Coburn's handbook is so complete and so excellent that no one who has not studied it can claim to be well informed about alfalfa and its significance in improved farm and animal husbandry. We can supply the book at the published price.

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"Your purse, sir, or spectacles or check-book?" and so on, until the old gentleman would say at last:

"Of course, that's it. Thank you, James."

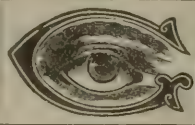
One night the old gentleman had gone to his room and all were in bed when James was startled by hearing his master's bedroom bell. He rushed upstairs and threw open the door.

"James," said the old gentleman, "I came up here for something, and now can't remember what it was."

"Wasn't it to go to bed, sir?"

"Of course," said the old gentleman, "so it was. Thank you, James."—August Lippincott's.

The National Nut Growers' Association. The third annual Convention will be held at St. Louis, Mo., October 26 to 28, 1904. Information can be had from J. F. Wilson, Secretary, Ponlan, Ga.



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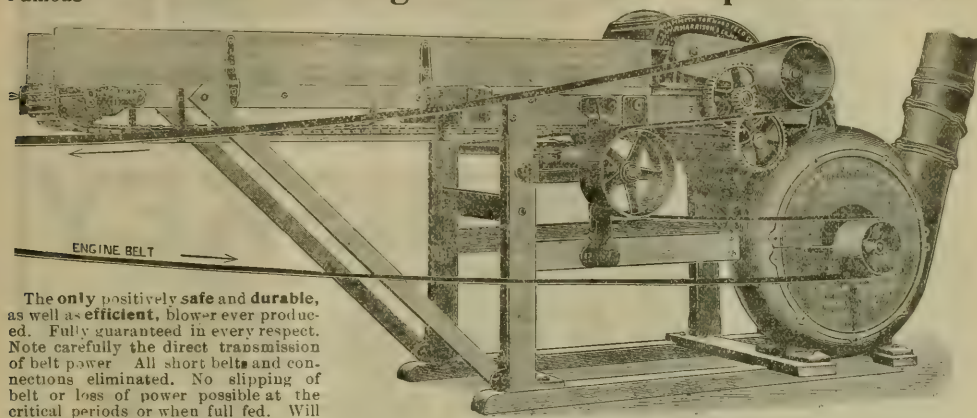
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TO STEM THE DRIFT.

Yet there are quiet forces at work, year by year becoming better organized and of broader power, whose tendency is to overcome this hurtful condition and induce a migration back to the land and away from the overcrowded centers. Industrial and agricultural educations are playing an important part, and nature study courses

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and city school gardens where children are taught to know something of the soil and plants and the real wonders of nature working around us at every hand, are no longer looked upon as fads. An interesting move in this direction was made the other day in the organization of the American League for Industrial Education in Chicago, with such national characters for officers and sponsors as N. O. Nelson, of St. Louis, who has founded the village and school of Le Claire, adjacent to his factories at Edwardsville, Ill.; Thomas Kane, president of the Winona Assembly, which is establishing an institution for the teaching of agriculture in Indianapolis; J. H. Krauskopf, founder and president of the now noted National Farm School at Doylestown, Penn.; John H. Patterson, president of the National Cash Register Co., whose school gardens and model factory equipments at Dayton, O., have awakened a widespread interest; Gen. R. S. Tuthill, through whose efforts the St. Charles Home for Boys at Chicago was founded; O. J. Kern, superintendent of schools for Winnebago county, Ill., who has done a great work in the consolidation of county schools, and perfected plans for engraving on them methods for the practical teaching of improved agriculture in experimental gardens; E. B. Butler, president of the board of trustees of the Illinois Manual Training School Farm; and Milton George, the founder of that school; Jane Addams, head resident of the Chicago Hull House Social Settlement, and others of note in this movement.

TEACH THE MIGNITY OF WORK.

The League is working for an industrial public school system, which will include the teaching of domestic science and both agricultural and manual training in all the public schools, so that children shall be taught to work with their hands and farm as they are taught in the public schools of France and Denmark. It maintains that every school should have a school garden, where every child should be taught to be a lover of nature and of the country, and trained toward the land as a source of honorable livelihood, rather than away from it.

Such a system of education would undoubtedly tend to very largely check the constant movement toward the cities. The farm boy who receives a fair school or high school education naturally turns toward the place where he can best apply it. His training has not been such as would help him to farm better or make of farming an interesting science. And so he goes to the city. On the other hand, the city boy, as he grows up and marries would like to have a home of his own on the land, but he knows only the trade he has learned. He knows nothing of farming, and he would not know what to do on a piece of land if he had it. It has been often said that

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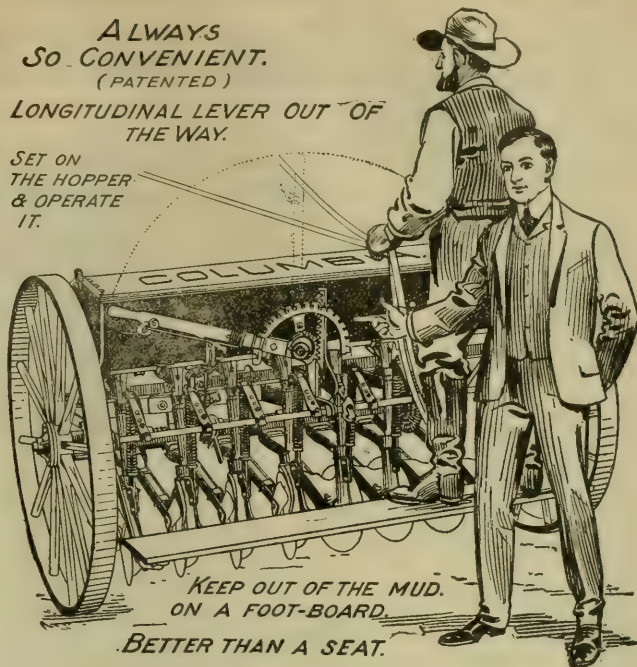
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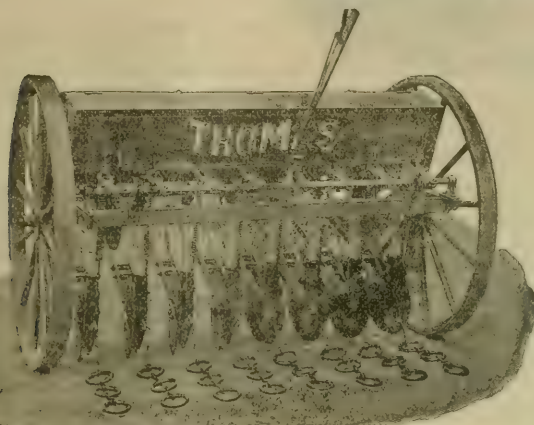
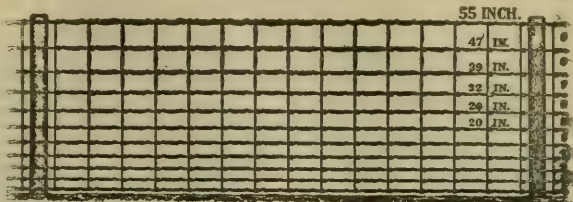
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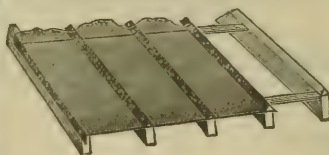
is the most economical fence that can be erected. Its cost



THE THOMAS DISC GRAIN DRILL will drill perfectly WHEAT, OATS, CORN, PEAS and BEANS as well as grass seed of all kinds. With or without fertilizer attachment.



OHIO FEED CUTTERS for hand or power. A comparison with others will convince you it is the strongest, simplest and best made. The power machines are furnished with blower or carrier if so wanted. Prices very low.



V CRIMP STEEL ROOFING. The most economical roof made. Does not require a carpenter to put it on. Furnished in all lengths from 5 to 10 feet long.



WOOD'S PATENT SWING CHURN. The quickest and cleanest butter maker known. The frame is made of Hollow Steel Pipe, very light and strong, and easily forms a useful table. The churns are furnished of either wood or heavy tin.



THE EMPIRE CREAM SEPARATOR should be on every farm where three or more cows are kept. It will save its cost many times in one year. It is the simplest one ever manufactured and can be cleaned without trouble to any one. Write us for particulars.

SINGLE AND DOUBLE CIDER MILLS. All sizes and capacities at low prices.

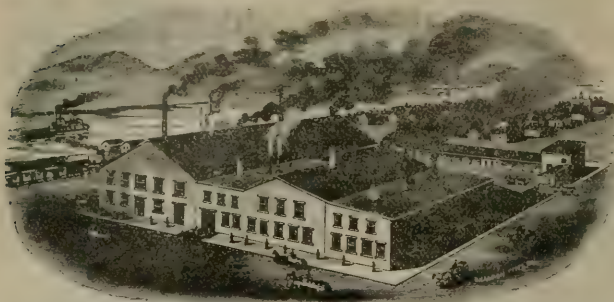
BIRDSSELL STEEL SKEIN FARM WAGONS, MITCHELL FARM WAGONS, BUGGIES, CARRIAGES, HARNESS, ROBES, BARB AND PLAIN WIRE, POULTRY NETTING AND LAWN FENCING, CORN SHELLERS, FEED CUTTERS, GRAIN DRILLS, WOOD SAWS, MOWERS, BINDERS, HAY RAKES.

All kinds of Agricultural Implements and Machines.

Catalogue mailed free.

THE IMPLEMENT CO., 1302 and 1304 E. Main St., Richmond, Va.

EVERLASTING DOUBLETREES AND SINGLETREES.



We present herewith an illustration of the factory of the Pittsburgh Tubular Steel Whiffletree Co., in which are made the celebrated tubular steel doubletrees, singletrees and neck yokes of every description. These articles are made from steel tubes, which are tapered and flattened, which process gives them a graceful appearance as well as adds to their already great strength. Trimmings are all drop forged and are so arranged that any blacksmith can make repairs, when necessary. These goods are used extensively on the farms and plantations in almost every country, including far-off Australia, Mexico, Hawaii, Philippines and many others, and all users are unanimous in their praise of the great merits of the Tubular Steel Whiffletrees. The manufacturers guarantee them to excel all other makes in the three essential points of strength, durability and construction. The following guarantee goes with every set of these articles which leaves the factory:

The Tubular Steel Doubletree is proven to be superior to any other form of construction, not excepting sheet steel, solid steel, malleable iron, or the best hickory grown. They are head and shoulders ahead of any other whiffletree on the market to-day, and are entitled to this position on the possession of the following recognized merits, not possessed by other makes:

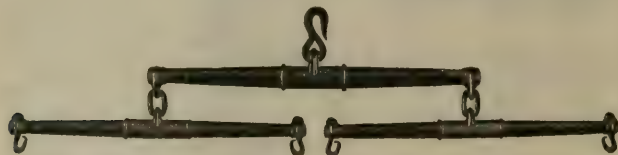
First. The necessary draft strength.

Second. The necessary lifting strength.

Third. The only absolutely safe trimmings, which are guaranteed to remain permanent in all climates and under all conditions, it having been demonstrated by actual service in the damp and sultry climate of Cuba during the late war with Spain, when the United States Government equipped 5,000 of the army wagons with our farm wagon doubletrees, pattern No. 102, and the goods were found to be so satisfactory that the officer in charge there made them the subject of a special report.

All dealers and users are requested to send for illustrated catalogues showing a full line of these articles for all purposes from the hauling of the heaviest machinery to the lightest plowing and harrowing.

To those going to the Exposition at St. Louis, don't fail to examine the creditable exhibit of this company, which is in the Transportation Building.

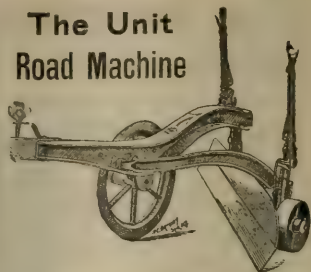


Farm Wagon and Overland Freight Wagon Doubletrees, equipped with Forged Fittings. Furnished with Hooks or Rings for trace attachment.

Just a final word. The manufacturers are so impressed with the superior qualities of the Tubular Steel Singletrees that they desire all users to have the benefit of this invention, which will save time and money. Address the Pittsburgh Tubular Steel Whiffletree Co., Pittsburgh, Pa.

When corresponding with our advertisers always mention the
SOUTHERN PLANTER.

The Unit Road Machine



So called because it has but ONE WHEEL, and take but ONE TEAM and ONE MAN to operate it.

Is of light draft, is sold at a low price, and will work roads faster than any other machine. Both ends of the mould board are under control of the driver. Being short it can be easily turned round in narrow roads to trim up short sections. IT IS A PERFECT RUT SCRAPER. The angle of the blade causes it to cut the ruts to best advantage, sweeping the loosened earth sideways to fill them and moving the surplus to the centre of the road.

Roads can be kept in good condition, after constructed, at very little expense.

EVERY DISTRICT SHOULD HAVE ONE.

Write for circular.

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and POTOMAC R. R.
and WASHINGTON SOUTHERN R'Y

THE RICHMOND-WASHINGTON
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The Link Connecting the

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Fast Mail, Passenger, Express and Freight Route between Richmond, Fredericksburg, Alexandria, Washington, Baltimore, Philadelphia, New York, Boston, Pittsburg, Buffalo, and all points North, South, East and West.

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General Manager. Asst. Gen'l Man.
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.....LAIDLAW'S.....

Concentrated Tobacco Powder, Sheep Dip and Cattle Wash.

A SURE CURE FOR THE EXTERMINATION OF

Scab and Tick in Sheep.

Lice on Horses and Cattle.

Lice on Hogs.

Mange on Dogs.

Kills all vermin. Allays all irritation. Promotes growth of wool. Makes animal feel well and take on flesh.
ABSOLUTELY NON-POISONOUS.

PRICES: 5-lb. bag, 75c.; 10-lb. bag, \$1.25; 25-lb. bag, \$2.60; 50-lb. bag, \$5.00.

One 50-lb. bag makes 500 gallons Dip for Scab, and 1000 gallons for Tick, etc.

SOLE MANUFACTURERS,

LAIDLAW, MACKILL & CO., Limited, Richmond, Va., U. S. A.

To be Had at all Leading Drug Stores.

DEATH OF DR. REYNOLDS.

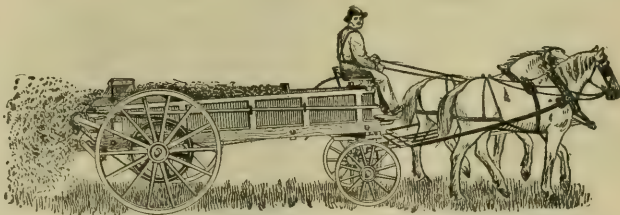
We are pained to have to record the death of Dr. James Henry Reynolds, of Adrian, Mich., who for a number of years was advertising manager of the Page Woven Wire Fence Company of that place. Our business intercourse with this gentleman was always of the friendliest and most satisfactory character. We always found him fair and square, upright and honorable, courteous and friendly. We tender his family and his late employers our profoundest sympathy in their bereavement.

THE TORNADO ENSILAGE CUTTER

We have pleasure in calling the attention of our readers to the advertisement of Messrs. W. R. Harrison & Co., Massillon, Ohio, to be found on another page. This firm makes one of the very best ensilage cutters on the markets. Our farmers will never be able to handle their tremendous corn crop without an ensilage cutter, and they will do well to investigate the merits of this one before purchasing.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

THE KEMP "SUCCESS" MANURE SPREADER.



The Kemp & Burpee Manufacturing Company were the pioneers in introducing manure spreaders, and have remained in the lead from the first. The Kemp & Burpee Manure Spreaders have always been the standard machines. Now they have taken a long step forward, and offer the farming public their newest spreader, which they have named "Success"; and it is well named, for it is so immensely superior in every way to anything ever before offered that it has proven to be a success among farmers. It is lighter in draft than the old machines, handles manure of all kinds and fertilizers with perfect ease and accuracy, and may be so arranged as to spread a given quantity of manure with evenness and exactness—wet, strawy manure, light strawy manure, manure tramped in the feed lot by cattle, fresh stable manure, sheep manure, cornstalk, corn cobs, ashes, lime, salt, commercial fertilizers, or anything else that is used for fertilizing purposes, no matter what it is. It has attachments for distributing commercial fertilizers on drills in the rows in any quantity per acre.

I will pay any one needing a manure spreader—and every farmer needs one, unless already supplied—to send for the catalogue of this company and give it a careful reading. It is sent free to all inquirers. Address Kemp & Burpee Manufacturing Company, Syracuse, N. Y.

When corresponding with our advertisers always mention the
Southern Planter.

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GEO. WATT, 1840.

THE CALL-WATT CO.,

Implements, Machinery and Vehicles.

MANFRED CALL,
Gen'l. Manager.

HAND PRESS

For Hay,
Cotton,
Straw,
Shucks,
etc., etc.



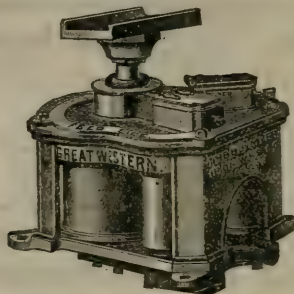
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PORTABLE EVAPORATOR,
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THREE-ROLL CANE MILL.



DISC AND HOE GRAIN AND FER-
TILIZER DRILLS,
Broadcast Plaster and Fertilizer Distrib-
utors.

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We solicit enquiries for anything desired.

13 S. 15th Street, Bet. Main and Cary RICHMOND, VA.

CATALOGUES.

The Virginia Land Agency, Richmond, Va., Hockaday Casselman & Co., Main street, Richmond, Va.

The Foos Mfg. Co., Springfield, O., Grinding Mills, Corn Harvesters, Corn Shellers and Farm Tools.

The American Devon Cattle Club. Year Book for 1904. L. P. Sisson, Secretary, Newark, O.

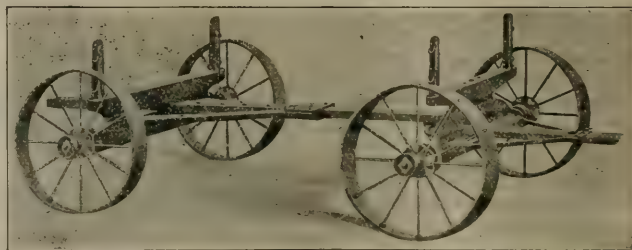
E. R. Taylor, Penn Yan, N. Y., manufacturer of Carbon Bisulphide for destroying insects in grain, etc.

KEEP FLIES OFF STOCK.

Milch cows suffer more from attacks of flies and mosquitoes in summer-time than other animals, and the flow of milk is often seriously impeded in consequence. An occasional spray of Sanford's Fly Knocker keeps off the flies and biting insects and allows the animals to feed in comfort. The expense is very small, while the gain is great. F. S. Burch & Co., Chicago, can supply you.

NOW I LAY ME.

Oh, once upon a time there was
A tiny little tot
Who knew her Mother Goose-y, though
Her prayers she quite forgot!
She started off, "I lay me down"
Then what do you suppose?—
"Down came a blackbird,
And nipped off her nose!"
—September Lippincott's.



AFTER HARVEST WORK.

There is the hauling out and spreading of the season's accumulation of manure; the clearing of the wood lot; the removal of stumps, boulders, stones, etc.; the repairing of farm and pasture fences and the filling of silos. Then, too, there is the shelling and marketing of last season's corn, which has been held until the present crop has given evidence of success. The marketing of the spring and summer fed hogs, etc.

Every one of these operations brings the farm wagon into frequent and almost continued use. It is important, then, that the farm wagon be a good one. It should be as light as is consistent with requisite strength. It should be low down so that it may be easy to load. It should have broad faced tires in order to avoid cutting up and "rutting" of meadows, pastures and farm lands, and to reduce the traction and draft to the minimum.

These good qualities and advantages in a farm wagon are embodied in a high degree in the Electric Handy Wagon, a cut of which is shown with this article. As its name indicates, it is a low down, handy wagon in every sense to which this term will apply. It is very easy to load, saving, we think it safe to say, more than half the lift, as it is the part of the lift above the centre of gravity—the last half—which requires the heavy strain. This advantage will be appreciated almost beyond comparison in hauling all the above mentioned substances. Write to Electric Wheel Co., Quincy, Ill., for free catalogue.

FOR WHEAT, OATS, CLOVER AND OTHER GRASSES, USE LEE'S PREPARED AGRICULTURAL LIME.

It is the "Old Reliable" and has stood the test for 25 years. It is composed principally of Hydrate of Lime Sulphate of Lime, and Potash.

SPECIAL WHEAT FERTILIZER

We put this brand on the markets only a few years ago and its success has been short of marvelous. Some of the best farmers tell us that they get a better stand and growth of grass and clover from it than any other fertilizer. Recommended for corn land or any other land of fair fertility.

PLAIN SHELL LIME Constantly on hand at lowest prices.

No. 1. WOOD BURNT LIME, in car lots at lowest market price from the kilns.

If you wish to **IMPROVE** your land, use a ton of **PREPARED LIME** to four acres for **WHEAT** and **CLOVER**, or if you wish to seed it for other **GRASSES** where the land is in good condition, use the same quantity and it will give you a good **STAND** and **GROWTH** of **GRASS**. For reclaiming **POOR** land, where there is little or no **VEGETATION**, **COVER** naked place with litter from the barnyard or forest using the same quantity, and sow winter **OATS** and **CLOVER**,

SEND FOR CIRCULAR AND PRICES.

A. S. LEE & SON,

102 South 13th Street

Richmond, Virginia.

THE GREAT WESTERN MANURE SPREADER.

It is his duty to himself for a farmer to use modern, up-to-date machinery in his work. Otherwise he works at a disadvantage compared with his neighbors. It is in this light that we present the subject illustrated here, the Great Western Endless Apron Manure Spreader. This machine ought to be considered one of the most necessary and most important on the farm. It solves the problem of maintaining the land's fertility, and this means everything to him who is going to get prosperity out of the land. The old way of spreading manure will not answer now. It did not make the most, not even half value, out of the manure. It was slow, laborious, disagreeable work. The work was not done at proper times. The same amount of manure did not cover half the ground it can be made to cover with the Great Western, and yet the results on the first crop and succeeding crops are more apparent.

Of the perfect working and perfect adaptation of this machine to its special work we have spoken above. We will not at this time go into detail again on the matter. It must be remarked, however, that, while called a manure spreader, it is equally adapted to the right distribution of every character of farm fertilizer. A faint

idea of the distinguishing features of this great machine may be gathered from their advertisement. It should be read and each claim noted by every farmer who does not possess a manure spreader. These are the unquestioned essentials of the perfect working machine. A much better idea can be gathered from the Great Western Catalogue, a comprehensive book, which may be had simply by addressing the manufacturers, the Smith Manure Spreader Company, No. 18 South Clinton street, Chicago. It lays before the reader in a most convincing way the advantages of spreading manure by machinery, and shows fully and fairly the comparative merits of the Great Western.

Marshall P. Wilder is reported to be responsible for this:

A jovial Irishman of County Down, Ireland, was overfond of the cup that cheers, and also had a liking for the public house, where he was in regular attendance. His wife, wishing to wean him from his bad habits, decided to put up a job on him, and called in her brother Mike to help her. Mike was to waylay Terence on the way home from the spree, pretend to be a ghost, and deliver a severe reprimand. Everything went along swimmingly and Terence was slowly but noisily

nearing home when a ghostly apparition rose quietly before him.

"Hello there!" cried Terence. "An' phat are you?"

"I'm auld Nick," came grimly from the apparition.

"Sure, an' I'm mighty plazed t' mate yer," said the jovial Terence. "Coom out an' gie us a shake of yer hand. I'm married to a sister of yours."

NO PAY, NO CURE.

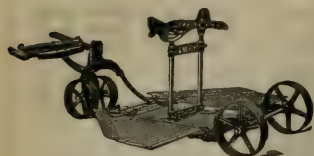
"Mister," said a little child to the herb doctor, or "root doctor," as they are sometimes called in some parts—"Mister, mamma says them las' pills you sold her didn't do no good, and she told me to ask you to send her some other kind this time," and, saying which, she placed the empty box on the doctor's rickety desk.

"Lemme see," said the doctor, as he adjusted his glasses and looked over his book. After inspecting the book for a few moments he looked up and said:

"Humph, humph! I see whar de trouble is. You tell you' mammy, honey, dat she nevah paid fur dem las' pills she got, an' tell her she can't spec' fur dem to do her no good 'cep'n dey's paid fur!"—September Lippincott's.

Mention THE SOUTHERN PLANTER when corresponding with advertisers.

Latest Improved FARM IMPLEMENTS.



Scientific Steel Corn Harvester.
The best Harvester on earth, for standing corn
Safety seats. Safety shafts



Special prices given on Studebaker and
Brown Wagons, Buggies and Carts.

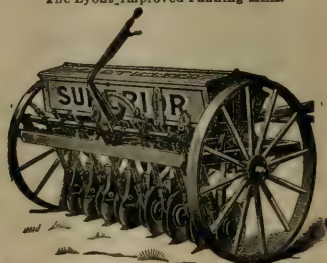


The Lyons Improved Fanning Mills.

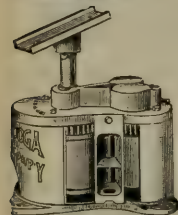


ROSS

Fodder Cutters, Fodder
Shredders, Cutters for all
purposes, Corn Shellers,
Grinding Mills, Horse
Powers and Wood Saw.



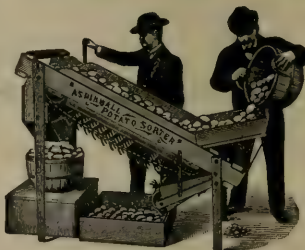
SUPERIOR GRAIN DRILLS.
Plain and Fertilizer Hoe and Disc Drills—all sizes



Chattanooga
Cane Mills
and
Evaporators.



CAHOON Seed Sowers, MICHIGAN Wheel-
barrow Sowers.



Aspinwall Planters, Potato Sorters
and Cutters.



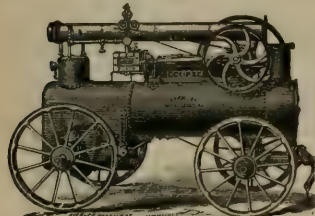
Studebaker Buggies, all styles, Studebaker Car-
riages, Studebaker Carts, Studebaker Runabouts



Kemp's Improved Manure Spreader. Three
sizes.

Aspinwall Potato Planter.

Automatic, Accurate and Reliable.
Used by thousands of practical growers
the world over. Over twenty years on
the market. Don't be fooled by imita-
tions and make-shifts, but write for at-
tractive illustrated catalogue.



Frick and Aultman and Taylor Engines.
Saw Mills and Threshers.



TIGER DISK HARROW.
Plain and Lever Spring Tooth Harrows. All Sizes



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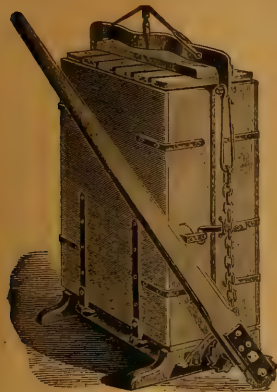
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 Machinery, Vehicles and Harness



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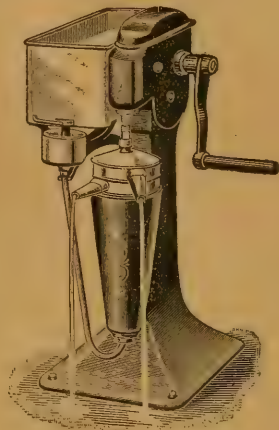
Dain Corn Cutter



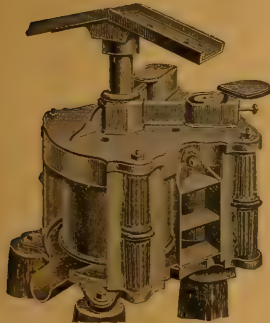
Full Circle Horse Power Press



Cider Mill with Wooden Roller



Sharples' Cream Separator



Cane Mill



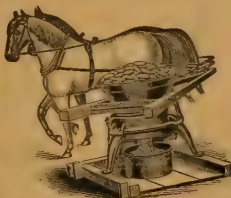
Steel Beam Plow



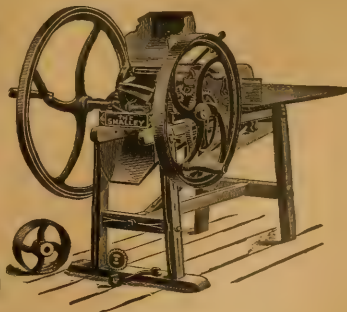
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Portable Evaporator



Sweep Feed Mill



Smalley Feed Cutter

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THIS COMPANY has paid nearly one and a half millions in Virginia, in death claims alone, without contest or compromise of a single policy. It has policy holders in nearly every county whose names will be furnished as references, together with full information as to rates and plans, to any one contemplating life insurance, or desiring to represent

—THE BEST COMPANY FOR THE POLICYHOLDER.—

T. ARCHIBALD CARY, General Agent for Virginia and North Carolina,

1201 East Main Street, RICHMOND, VA.

STRONG, HEALTHY AND SLEEK HORSES



Are the inevitable result of giving OWENS & MINOR'S DIXIE CONDITION POWDERS. If you wish fat and smooth Cattle and healthy Milch Cows, give

DIXIE CONDITION POWDERS.

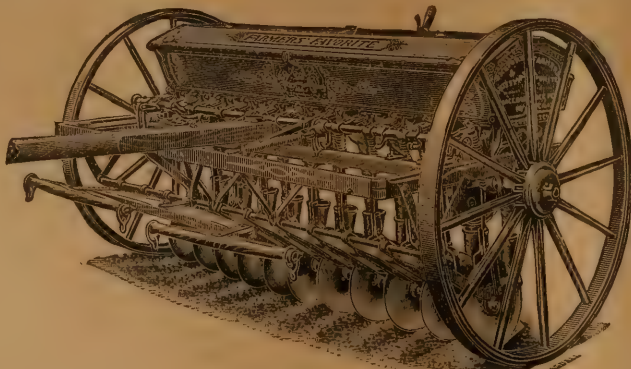
For RHEUMATISM, SPRAINS, STRAINS and all PAINS use

DIXIE NERVE AND BONE LINIMENT—Best on earth for Man or Beast. Large Bottle 25 cts.; everywhere.

—OWENS & MINOR DRUG CO., Richmond, Va.

WHEAT DRILLS

The most improved, up-to-date drills made. Will drill wheat, corn, beans, peas and any other seeds; clover and grass seed attachments.



We furnished the most approved drills used in the EAST, and another drill, the most approved used in the WEST.

It will be worth your time and trouble to see us or write us if you want a drill this Fall. We have inspected all of the drills at the St. Louis Exposition and are ready to give you the benefit of our investigation.

ASHTON STARKE, Implement House, Richmond, Va.

The STATE BANK OF VIRGINIA

JOHN S. ELLETT, President. WM. M. HILL, Cashier.
CAPITAL, \$500,000. SURPLUS, \$240,000.
RICHMOND. - - - VIRGINIA

Established 1840.

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Sixty-Fifth Year.

Southern Planter

A MONTHLY JOURNAL

DEVOTED TO

Practical and Progressive Agriculture, Horticulture,
Trucking, Live Stock and the Fireside.

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THE SOUTHERN PLANTER PUBLISHING COMPANY, - - - - - Proprietors.

J. F. JACKSON, Editor and General Manager.

Vol. 65

OCTOBER, 1904.

No. 10.

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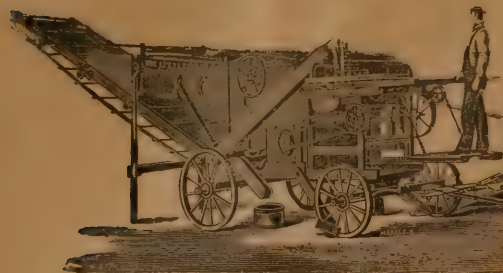
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SUBSCRIPTION, 50c. PER YEAR, IN ADVANCE.

The Most popular Machines in use for Peanut Picking and Grain Threshing are the

HEEBNER'S, LITTLE GIANT and PENNSYLVANIA



Machines, and they have splendid improvements for 1904. They are built in first-class manner, and are strong and durable. The price is within the reach of all. We guarantee them to do the work satisfactorily. We will mail catalogue and testimonials, and quote prices on application.

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GANDY BELTING,

FRICK'S "ECLIPSE"
ENGINES and BOILERS.

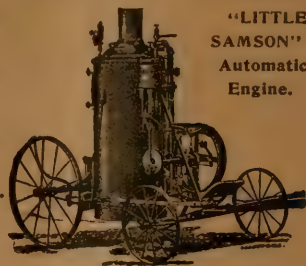
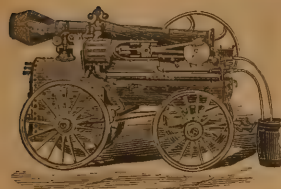
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Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, October, 1904.

No. 10.

Farm Management.

WORK FOR THE MONTH.

September has been an ideal fall month. The rains ceased in the first week, and a period of warm weather set in, which has continued with but slight interruption to this writing (20th September). The effect of this has been most marked. Crops have advanced rapidly to maturity, and pastures have been filled with good grazing. There is every certainty now that farmers who have done their duty to their land and crops will throughout the South be rewarded with good returns for their labor, and that there will be no scarcity of food for man or beast this winter. The corn crop of the South, which is considerably larger in area than that of last year, promises better than for many years past, and will probably be the best corn crop ever made in the South. Whilst our wheat crop was not of the best, yet we were in this better off than many of the Western winter wheat States, and far better off than the spring wheat States of the Northwest. The completion of the harvesting of this crop has verified our prediction, that it would be one of the smallest made in years. Taken together, the yield of winter and spring wheat is certain to prove more than 100,000,000 bushels less than that of last year, and nearly 200,000,000 bushels less than that of the year before last. This fact, taken in conjunction with the greatly decreased yield of the wheat crop in nearly every part of Europe, and practically a failure of it in some South-eastern countries of Europe, from which ordinarily much wheat is shipped is certain to result in a continued high price all through the winter. It has al-

ready sold for \$1.20 per bushel in Chicago, and we look to see a material advance even on this price.

The corn crop of the country is not, in our opinion, likely to prove as large as that of last year; indeed, with early frosts, which are already on hand in the Northwest, there will, we believe, be a large percentage of the crop so damaged as to be unmarketable. In Southeastern Europe, which usually ships much corn to England, the crop is practically a failure, and export has been already forbidden in several of these countries. We look to see a strong demand for our good crop, and those who will have corn to sell may hold it with confidence of receiving a good price for it. The only factor which will prevent a high price is the excellence of the oat crop, which, when corn is scarce, is largely used to supply the deficiency in feeding stuff.

The taking up of the weather in the beginning of September had a most beneficial effect on the tobacco crop, which now promises to be much better than was anticipated; indeed, we hear of some excellent crops being made, and that those already cut and cured are making a very nice cure. It is probable, however, that there will be a good deal of rather coarse tobacco, and much will depend on the care taken in curing this as to the price to be realized. For all good tobacco there promises to be a good demand, and the action taken by many of the growers in organizing themselves is likely to result in a more systematic marketing of the crop, which should result in better average prices.

The indications still are for a much less cotton crop than the increased acreage lead to anticipate. Every pound of cotton grown and picked is going to be needed at a price that will pay the growers, and there need be no haste in rushing the crops to market. The price, in our opinion, is not likely to get less as the season advances, unless there be great recklessness in marketing the crop.

Peanuts still promise only a moderate yield, and with a market bare of stock, ought to command a good price.

Sweet potatoes are not yielding as well as they promised. The drouth of July injured the crop.

Ruta bagas and turnips have made a fine start in growth, and promise an abundant crop. They will get weight this month and November very fast.

The second crop of Irish potatoes is now growing well, but the wet weather in August injured the stand, and the yield will not be up to the average.

Second crops of clover and grass, and crops of cow peas, cow peas and sorghum, and cow peas and millet, have made a heavy growth during the past month, and very much hay has been made from these crops of a highly nutritive character. They are all rich in protein and admirably adapted for feeding to young stock and milk cattle in conjunction with corn fodder, silage and sorghum. Used in this way an almost complete ration can be fed to stock, and the necessity for buying bran and other protein feeds be almost dispensed with. With the advancing price of wheat, bran will become a very costly feed, and every means should be adopted to avoid purchasing more of it than can be helped. There are yet large areas of these crops to be harvested, and we would urge careful attention to the saving of them. In our recent issues we have published several different experiences in handling these crops, and refer our readers to them. Do not be in too great hurry to haul the crops to the barn. It is an old saying in the "old country," where the best hay in the world is made, that "It is better to have a manure heap in the field than in the barn." This means that care should be taken to have the crop well cured in the field before housing it. At this time of the year the dews are heavy, and showery weather is often had, under such conditions hay of all kinds can only be made good by giving it

ample time to cure, and by frequent stirring of it during the time when the sun and wind are both available. Keep drawing the hay into larger cocks in the field as the cure progresses, opening these out every day or two to let in the air and sun to dry out the moisture, and then putting two or three into one. In this way good hay can be made even in showery weather. A gentleman who makes a large quantity of cow pea hay tells us that he is curing it this year most successfully by setting up in the field a cone of four pine poles drawn together at the top and set 3 or 4 feet apart at the foot. He nails a strip about a foot from the bottom of the poles to connect them together, and then piles the peas around these poles as high as he can place it, thus putting half a wagon load in each heap, and tops off at the top with a cap made over the top of the poles. He tells us that he puts his crop up around these poles as fast as it is cut by the machine, only allowing it to wilt a few hours. These poles allow a current of air to pass right through the centre of the pile, and this, with the action of the sun and air on the outside, soon thoroughly cures the hay. He says that he has made a great success in curing. The cutting and setting up of the poles, of course, takes some time, but the result is so satisfactory that he considers he is well repaid.

Have all corn and sorghum crops cut off at the root and set up in good sized shocks to cure out. Let these shocks be carefully set up and be tied round the top with binder twine after first drawing them together with a rope having a ring on one end or by using the Fontaine shock binder, a very useful little contrivance recently advertised in our columns, which enables one man to make good and quick work in setting up corn, so that the shocks will not fall down or be blown down except with a very high wind. Cut and cured in this way all the fodder can be saved, and it is too valuable and has cost too much labor to be wasted, as is too often done when only a few blades are stripped off and the rest of the stalk is left to encumber the ground and make work in its removal before the next crop can be planted. When thoroughly cured pull off the ears and throw into the wagon as pulled, and let another wagon take the corn stalks to the barn, and there run them through a fodder shredder and blow into the barn with a blower, and a great area of the crop can be housed in little room, and be convenient for feeding through the winter. Fodder thus saved is as good feed as well cured hay. Few farmers in the South appreciate the value

of fodder as they ought. Analysis of the different parts of the corn stalk go to prove that the relative value of the different parts are as follows (the crop of corn from which the fodder, was calculated was 40 bushels of shelled corn to the acre):

Parts of plant.	Lbs. per acre.	Value.
Butts of stalks.....	1,395 lbs.	\$5.59
Tops of stalks.....	297 lbs.	1.13
Bottom blades	357 lbs.	1.27
Top blades	212 lbs.	.82
Shucks and shanks.....	643 lbs.	2.34
Tassel	75 lbs.	.46
	2,979 lbs.	\$11.61

This table shows that the bottom of the stalk, usually left in the field, is worth more than all the rest as feed, but to get this value it must be shredded and packed away in the barn before the weather has extracted all the saccharine matter out of it. Only those who have fed this shredded fodder can thoroughly appreciate how stock relish it. If fed alternately with a ration of pea vine hay or soy bean hay, the stock will not only go through winter without loss of weight, but will grow and gain flesh even without grain.

Sorghum, where it has been grown alone and in wide rows so as to make fully matured stalks, should be set up in large shocks and be well tied around the tops. This feed keeps best in the field in these shocks, as it is practically almost impossible to cure it sufficiently to avoid moulding if stored in the barn. Left standing in the shocks the stalks take up sufficient moisture from the ground to keep the sugar in them from souring or wasting, protected as they are by a very hard outside coating, and the stalks will be found almost as sweet as sugar cane when taken in to feed during the winter.

The work of seeding the wheat and winter oat crop should have attention this month. In our last issue we wrote fully on the subject of preparing the land for these crops, and to that issue refer our readers. We only revert to the subject again in order to emphasize what we then said as to perfect preparation of the land before seeding. More depends on this preparation than on the quantity of fertilizer applied. When you think the land is in good order for seeding, then give it another working with the harrow and roller before starting the drill. This will give you an extra bushel or two of grain to the

acre, and will thus well pay for the labor. Remember, that Sir John Lawes kept a piece of land constantly producing year after year for sixty years, over 13 bushels of wheat to the acre, without the application of any fertilizer whatever by simply working the land well and plowing down the stubble and weeds produced each year. This shows the almost inexhaustible character of the natural plant food in the soil when rendered available by constant working and cultivation. Do not start the drill until after frost has been had, and so avoid danger from the fly. See to it that you sow only the finest and cleanest seed. Run it through the fan and blow out all light grains and weed seed. Careful selection and seeding of only the plumpest grain will result in a much greater yield of finer wheat. Give the seed a soaking in bluestone pickle to destroy all rust and smut spores before seeding. Sow plenty of seed. Two bushels to the acre is far more certain to make a good crop than one. Experiments conducted in many States have established the fact that only upon the very richest land will less than one bushel and a half per acre produce a maximum yield. The great failure of the wheat crop throughout the world this year will warrant the seeding of a large area this year, as stocks are bound to be greatly depleted before next harvest. We in the South should at least produce all the wheat we need for our own consumption, and we are not doing this now by a great deal.

Whilst it is too late now to sow crimson clover with the certainty of a crop, yet we would still advise its seeding in a mixture with wheat, oats and rye, say 10 pounds of clover seed to the acre, with three-quarters of a bushel of the mixed grain. Much of the clover will stand when protected by the grain, and a good pasture and cover for the ground will be assured, and the mixture makes a good green forage crop or hay, and a good fallow to turn under.

Hairy Vetch should be seeded this month. Sow 20 pounds to the acre, with three-fourths of a bushel of wheat or oats or a mixture of the two in equal parts. This crop makes a fine spring pasture and forage crop, and excellent hay, whilst at the same time it improves the land and conserves fertility. It makes a fine fallow to turn down for a corn crop. Hairy Vetch stands freezing much better than crimson clover, as it makes a stronger root growth. We would like to see every farmer grow a field of this vetch for seed. The price of seed keeps very high, and this prevents the crop being grown as freely as it

should. There is no reason why every farmer should not raise his own seed. The experiment of growing seed has been tried both in this State and in Maryland with perfect success. Sow 25 pounds of seed per acre with half a bushel of wheat or oats to hold up the vetches. The wheat or oats can be cleaned out of the seed with the fan and riddles.

Irish and sweet potatoes should be dug as soon as matured, and, if possible, before the tops are cut down by the frost. Dig only when the ground is dry, and let the tubers lie out on the surface only long enough to dry off the soil adhering to them. Irish potatoes should then be taken into the barn or a shed, from which frost can be excluded and be spread out, not over two or three feet thick, and be left to pass through the "sweat" for a week or ten days, and then after being carefully sorted over and all diseased and damaged tubers taken out should be stored in a dry, dark cellar from which frost can be excluded and be wrapped up in straw. The cooler they are kept so that they do not freeze the better they will keep and the less they will sprout. If no cellar is convenient, they may be put up in pies or heaps of 50 to 60 bushels out of doors on high dry land and be covered with straw and a few boards until after they have sweated out and the weather is cool, when they should have soil put on the straw sufficient to keep out frost.

Sweet potatoes should be stored in a cellar built for the purpose, which can be kept at a uniform temperature of about 45 to 50 degrees. When first stored the heat should be run up to 70 or 80 degrees to dry out all moisture, and then be cooled down to 50. If no such house is available or the crop is so small as not to warrant the cost of building one, keep them in a dry, warm cellar packed away in pine tags.

Sugar beets and mangold wurtzel beets should be pulled and the tops be cut off before frost touches them. They will not keep if they have been frozen. They should be stored in a cellar or in pies like Irish potatoes.

When the teams are not otherwise engaged keep them at work plowing land intended to be cropped next year. Let this work really be plowing and not skimming the top. Set the plow down into the land as deep as a strong team of two or three horses can pull it, and keep it there, and bring up some of the subsoil, say an inch or two. Do not turn the furrows flat over, but set them at an angle of 45 degrees.

Laid in this way the top soil and subsoil will get mixed together in working the land, and both will be improved. The air, sun and frost will act upon the subsoil and render the plant food in it available for next year's crop. If the subsoil be a clay one or if there be a hard pan break with a subsoil plow the bottom of each furrow. Especially should this breaking be done on the gullied hillsides, which are such an eyesore and source of loss all over the South. This is the only way in which these washes and galls can be cured. The water will sink down into the soil instead of running off and carrying the soil with it. If possible, give land so plowed and broken a top dressing of 50 bushels of lime to the acre after being plowed and run a harrow over it to mix the lime with the soil, and if then seeded with a bushel of rye to the acre this will grow and retain fertility and make some vegetable matter to work into the soil in the spring.

Have all barns, stables, sheds and pens thoroughly cleaned out and lime washed, and repair all broken doors, windows, roofs and sides, and make them wind and weather tight, so that when stock are brought in from the pasture they will be housed warm and comfortable, so that what is given them may make improvement in condition, and not be wasted warming a cold stable.

CROP PRODUCTION.

In our two last issues our correspondent, Mr. Turner, of Mississippi, joins issue with Messrs. Whitney and Cameron, the authors of the celebrated Bulletin 22, of the Bureau of Soils, and incidentally with ourselves, seeing that on the publication of that bulletin we largely endorsed the conclusions reached in it. Mr. Turner maintains that the production of crops (maximum ones) depends on the abundance of available plant food in the soil, and that all that is needed is to crowd on the fertilizer and the crop results will be assured. In proof of this he cites the production of the celebrated prize acre of corn grown in South Carolina, which, he maintains, resulted wholly from the abnormal amount of fertilizer applied to the crop. Whilst, of course, it is perfectly legitimate for Mr. Turner to use this argument in endeavoring to maintain his contention, without regard to the fact that this abnormal use of fertilizer was absolutely without profit to the grower, yet in practice this feature cannot be ignored. Farmers farm for profit, or at least ought to do so, and any system of crop production

which, though it may result in maximum crops, does not add to the profit of the producer is one which cannot in practice be endorsed, even though it may tend to elucidate a theory and establish a conclusion. We are, however, not prepared to accept the conclusions of Mr. Turner, although in the incident cited as proof they seem to be supported. In our long practical experience on the farm we have seen and experienced failure in the production of crops on the richest land, where the superabundance of plant food in the soil should, under Mr. Turner's doctrine, have resulted in most abundant yields, and this not because of abnormal weather or climatic conditions, but apparently because of some inability of the crop to secure and make available the plant food in the soil. This, to our mind, is conclusive evidence that some other factor goes to the making of maximum yields other than that of abundant plant food available to the crop. If only this factor is the controlling one, then why does not land which has been supplied with more than sufficient available plant food for the crops produced, and which, therefore, must be accumulating food in the soil, go on increasing the annual yield. We know from hundreds of examples every year that the yield, for instance, of a crop of wheat can be increased from the normal of unfertilized land in this country, say 10 bushels to the acre, to 30 bushels to the acre by the application of a properly balanced fertilizer of available plant food, yet the continued application of this balanced available fertilizer for years will not serve to lift the yield on the average to more than the 30 bushel limit, except possibly to the extent of a bushel or two extra in specially favorable years. We have ourselves repeatedly tried to ensure an excessive yield by extravagant fertilization on land already producing more than the average maximum yield, but rarely succeeded in our efforts, and even then only to a very small extent. The accumulation of food in the soil appeared to have no bearing upon the result after a certain production had been secured. Up to a certain point the way to increase the yield is clear, but beyond that point available increased plant food seems unavailable to the crop. There must be some cause for this, and the discovery of this cause and the remedy for it is one of the greatest problems now awaiting solution by scientists. Because Messrs. Whitney and Cameron's labors seemed to be directed to the solution of this problem, we hailed their bulletin with commendation, and look with hopefulness to the results of the continuation of their work. We are satisfied that there are more factors involved in

the problem than the mere supplying of plant food. We believe that the water content of the soil and its availability to the plant, the capacity of the plant to avail itself of this water content, the physical and mechanical condition of the soil, above all, the number and character of the microbic life in the soil, and its relation to the plant food supplied or naturally present in the soil, all have much to do with the yield of the crop probably much more than the quantity of fertilizer applied. In this view as to the especial importance of the microbic life we quote the following from a bulletin received from the Michigan Experiment Station, which has come to hand whilst writing this article: "The failure of land to yield a crop is *not due, in most cases*, to a lack of plant food in the soil. Results of chemical analyses show that in average soils throughout the country there is in the first eight inches enough nitrogen to last ninety years, enough phosphoric acid to last 500 years, and enough potash to last 1,000 years. * * * The great problem, then, of modern agriculture is not entirely the conservation of plant food in the soil, but rather the unlocking of the rich stores already in the soil and placing them in a condition to be assimilated by plants. This unlocking process is carried on naturally by the soil micro-organisms." The micro-organisms or bacteria are plants, and "the myriads of them invisible to the naked eye in taking their food from the chemical compounds of the soil produce in those compounds first the changes necessary to render them useful to the higher plants in making their growth." Unless certain required conditions of temperature, moisture, reaction, respiration and food supply are present these micro-organisms cannot perform the important duties in relation to plant growth, for which they exist, and without these are performed the crop will fail of maximum production, even in the presence of illimitable food. We will further discuss this question in future issues.

BERSEEM, OR EGYPTIAN CLOVER.

We have had several enquiries during the spring and summer as to this crop. We looked up the reports upon it, and came to the conclusion that it was not so well adapted to the South as to some other sections of this country. Recently we have received from a subscriber in Moore county, N. C., the following report on the result of an experiment made with it. He says: "We sowed a small plat on April 6th. On June the 1st it was 18 to 22 inches in height and in bloom. We made no attempt to cut it, as we wish-

ed it to mature, but young rabbits took most of it. It seems to be very promising in many respects. We have sowed again August 26th, and this is coming on nicely. This late sowing is to test its ability to withstand cold." We hope to hear further from our correspondent on this subject in the spring.

THE SYSTEM OF FARMING AS PURSUED BY THE AVERAGE COTTON RAISER RADICALLY WRONG (No. 2).

Editor Southern Planter:

While I am perfectly willing to admit that the major portion of our cotton raising brethren make a business of sowing cow peas every year, they are sown specifically for hay, or for the dry peas, and not as an all-important, and, in fact, indispensable part of a "renovating" or "fertility-maintaining" system.

Every cultivator of the soil should make the permanent improvement of that soil one of his chief aims in life. It costs no more to grow a crop of cotton, or, indeed, any other crop, on rich soil than on poor, while the yield is fully four times as large, and the profits correspondingly greater. Increased fertility means an increased productive capacity, which latter means larger and more profitable crops; while, on the other hand, decreased fertility means a decreased productive capacity, and smaller and more unprofitable crops. There is no profit in cultivating poor land, nor in raising poor crops. Unless there is a decided change in system pursued throughout the entire South, there will very shortly be nothing but poor crops gathered. There must be a regular, systematic, rotation; and one in which the legumes freely enter, and these legumes must be liberally fed with both potash and phosphoric acid, or a decreased and ever decreasing fertility will be the inevitable result.

The application of phosphoric acid and potash invariably results in profitable returns from the cow peas themselves, and never fails of bringing a profitable increase in the yield of the crop following the cow peas. Cow peas not only furnish nitrogen to the farmer free of cost, but they also increase the moisture holding and moisture retaining properties of the soil, and by keeping up the humus supply, improve its physical properties, making it light, loose, friable, mellow, warm-natured, free-growing and productive; promote nitrification and aeration of the soil, causing the liberation of plant food that without them might have lain latent forever, and puts the land in the best possible fix for the liberal application of commercial

fertilizers and makes "intensive farming" possible. This fact should never be lost sight of, that intensive farming is the coming farming; it is the farming of the future; it is the only really profitable system of farming, and it cannot be carried on where humus is deficient. I know of lands so destitute in humus that 75 pounds of commercial fertilizer is as much as can with safety be applied per acre, while, on lands immediately adjoining, where humus is abundant, ten times this amount, or 750 pounds and upward per acre, can be, has been, and is being used with manifest advantage and decided profit. No humus, no high manuring, no intensive farming, no maximum crop yields. How important, then, that the cotton raiser keep up his humus supply, and raise his own nitrogen. He should grow such areas of legumes (never less than one-third of amount in cultivation) as will enable him to dispense with the purchase of nitrogenous fertilizers for cotton, using the money thus saved to purchase increased amounts of phosphates and potash, said increased amounts of phosphates and potash enabling the farmer to grow heavier crops of legumes; the heavier crops of legumes attracting and abstracting larger amounts of otherwise unavailable atmospheric nitrogen, resulting in further and still further soil enrichment, and ever-increasing crop yields per acre, per hand and per farm.

As a feed, a ton of cow pea hay is worth as much as a ton of wheat bran, and more where a large percentage of ripe peas are saved with the hay; while hogs may be fattened thereon at small expense; the increased amount of forage saved will, in turn, call for more (and better) live stock of all kinds, and result in the saving of more manure. The place for the surplus manure (after the garden and potatoes, melons, etc., are supplied) is in dressing the weaker, poorer portions of the farm; the place for the fertilizers is on the peas; the place for the cotton is on the pea stubble, then corn (and peas) after cotton. Where oats are raised, they should follow the corn, ground well prepared by disking, the oats drilled in rough (not harrowed) in the fall—as soon as corn is gathered. They should be liberally fertilized with from 400 to 600 pounds per acre of a fertilizer analyzing about "3-8-5." The oats should be followed immediately by peas. Oats are quite exhaustive on land, and by no means a satisfactory crop in this section, except where sown in fall and highly fertilized. Pea hay is better, more sure, more satisfactory, more productive, and more profitable than oats; hence the raising of oats is—in this section—almost

limited to years where corn is short and an early feed required. "A. C. K." (A CHRONIC KICKER).

CORN GROWING IN SOUTH CAROLINA.

COW PEAS AS IMPROVERS OF LAND.

Editor Southern Planter:

It will possibly be of interest to you and your readers to have a report on a field of corn planted by me this year. The field is eight acres in extent, and is a light sandy loam, with clay about two to three feet from the surface. In 1902 corn was planted and yielded 30 bushels per acre with 600 pounds of fertilizer. That fall oats were planted. The yield was poor. In June, 1903, one bushel of Unknown peas was planted per acre and fertilized with 400 pounds of kainit and dissolved bone. The yield was 36,000 pounds of hay. This spring hog pen manure was broadcasted on field, and 600 pounds of fertilizer of a low grade was broadcasted, and the field planted in corn. The rows were three feet eight inches, and the stalks fifteen inches apart in the drill. The stand was perfect. Cultivation was by two horse Planet, Jr., riding cultivator until corn was four feet high, and then with the Planet, Jr., horse hoe. At all times I kept a dust mulch of one and one-half to two inches. This field is now said to be the best field of corn ever raised in Marlboro county, and you will remember that this is the county that made the prize acre. The ears on the stalks run from two to seven, and in a few cases over, and one stalk has eleven, good ears. The ears are large and well filled. It will easily make 90 to 100 bushels per acre. The seasons have been favorable, but land of the same character near it will not make more than 10 to 15 bushels, and in no case more than 25, with as heavy fertilization, but not so good cultivation. The increased yield must be attributed to the nitrogen fixed in the soil by the cow peas, and to the hog pen manure. I used to think that the legumes were overrated, but now have changed my mind. The rating is under and not over. The most convincing illustration of this fact was a plot of corn in 1903. A field of fifteen acres was planted and cultivated in the same way as the eight acre field. Five acres of this crop was grown after peas, to which 300 pounds per acre of kainit and dissolved bone was applied. The balance of the crop was after cotton. The field of corn was sold and produce weighed. The yield after peas was 45 bushels per acre, after cotton 15 bushels. Rather a convincing argument that fertilizers alone do not improve land.

At some future time will report further tests and results.

JOHN CALHOUN.

HUMUS.

HOW TO MAINTAIN A PROPER SUPPLY.

Editor Southern Planter:

Humus is the vegetable matter in the soil. To determine the quantity of humus present dry the soil thoroughly. Then weigh a suitable quantity of the dried soil, place in an iron vessel and set over a fire. Bring the contents to a low red heat and stir for a suitable length of time, say for thirty minutes. When cold weigh again. The difference between the weight before and after heating is humus; it has been consumed by the fire.

But heat is not the only mode that will destroy humus. Injudicious cropping will remove humus from the soil. As an illustration, if commercial fertilizers, even of high grade, be employed for a sufficient number of consecutive years, no means in the meantime being employed to make the necessary humus, the soil will eventually become dead and compact; the humus has been extracted as effectively as if done by heat. In this condition of the soil no application of commercial fertilizer, however large, will produce a profitable crop? The necessary quantity of humus must again be restored to the soil before there can be any more profitable farming.

HOW TO MAINTAIN A SUPPLY OF HUMUS.

A heavy green crop should be occasionally turned down. When the vegetable matter rots it will supply the needed humus. In selecting plants for humus purposes preference is given those of the legume family, for the reason that in addition to supplying humus a bountiful supply of nitrogen is drawn from the air. A good crop of cow peas or of the other legumes will easily mature \$15 worth of nitrogen per acre, which, when turned down, will serve the next crop. Rye may be equally good for humus purposes, but the nitrogen, except what may have been drawn from the soil, is wholly lacking, none having been drawn from the air.

Hairy vetch, crimson clover, etc., may be grown during the fall and winter, and cow peas, soy beans, etc., during the summer.

The ranker the growth the greater will be the quantity of nitrogen drawn from the air. Hence it usually pays well to liberally fertilize said legume crops.

FERTILIZER FOR COW PEAS, CRIMSON CLOVER, ETC.

Mix 400 pounds of muriate of potash with 1,600 pounds of acid phosphate and apply 400 to 600 pounds per acre, preferably a few weeks before seeding.

If cow peas are employed they are preferably planted in three feet drills, fertilizer applied in the

drills and plants thoroughly cultivated from start to finish. One peck of seed per acre will be ample for forage or improvement purposes.

With proper cultivation the fertilizer will act far better than when broadcasted, without cultivation.

If the improvement of the land is the object sought the entire crop at maturity should be turned down. When the quantity of vegetable matter is large several months will be necessary for it to properly decompose before seeding thereon. In the meantime the soil should be plowed several times and the rotted vegetable matter properly mixed therewith. Then, and not till then, will the soil be in a proper condition to yield its strength.

Certain prominent writers advocate feeding the hay and returning the manure to the land. If this plan be adopted twelve months may elapse before the manure is returned to the land, and by reason of the manure having been scattered here and there much of it will never be returned. The action of the vegetable matter on the soil is such that I am emphatically in favor of turning under such portion of the green crop as can be well spared from the barn.

Another important feature in legumes is their high feeding value. Cow pea hay contains about the same nutritive value, pound for pound, as wheat bran, and can therefore be substituted for wheat bran. The hay contains 10 8-10 per cent. of protein and 38 6-10 per cent. of carbo-hydrates. The proportion here is one part of protein to 3 6-10 parts of carbo-hydrates. In a well balanced ration there should be one part of protein to 5 to 7 parts of carbo-hydrates.

Timothy hay contains about 2 8-10 per cent. of protein and 40 4-10 per cent. of carbo-hydrates. Hence if a ton of timothy or some similar hay, such as corn fodder, shredded corn, etc., be mixed with a ton of pea vines the mixture will contain one part of protein to nearly 6 parts of carbo-hydrates. This is a fairly well balanced ration, and will give far better results than the two hays will if fed separately. Alfalfa, crimson clover, etc., may be substituted for the pea vine hay.

BRYAN TYSON.

Moore Co., N. C.

The application of potash in any form for the growth of the leguminous crops, except of some of the light sandy soils of Eastern Virginia and North Carolina, is of very questionable value. Experiments made in nearly all sections of Virginia have conclusively shown that there is potash sufficient in all our soils for the maximum production of these crops. All that is needed is that a dressing of 25 to 50 bushels to the acre of lime be applied to the soil. This

will make available the inert potash present in the soil, and will be much less costly than the potash, whilst also serving to improve the physical and mechanical condition of the soil.—Ed.

LIME EXPERIMENTS IN SOUTH SIDE VIRGINIA.

Editor Southern Planter:

Following are particulars of some experiments that I have made with lime on the Grove Farm in the last two years:

I applied one ton of lime to the acre, scattered broadcast on a grass sod of timothy, blue grass, Herds grass and sapling clover that had been standing for one year. The application was made in October. This field of fifteen acres was seeded to grass the fall before. The grass sod has thickened each year since, and each year has yielded more hay. Another experiment was made on an eight acre lot, which was plowed in November. One ton of lime was scattered broadcast on the plowed land in December. This was followed by a spring tooth harrow, thus mixing the lime with the soil. The following spring the field was planted to corn four feet between the rows and twelve inches apart in the row. It was worked flat with a spring tooth cultivator. The field averaged 65 bushels of corn to the acre. Last fall the eight acres were put in timothy, Herds grass, Blue grass and sapling clover. The grass was top dressed with barn-yard manure during the winter. The season being a bad one for hay, I only got one and one-half tons to the acre. The sod at this writing is a good one, and bids fair to make a good crop another year. A third experiment was tried on three acres of peas and German millet. The land was very thin, one ton of lime to the acre was scattered on the land after plowing it in April. Peas and German millet were seeded first of June. After seeding the peas and German millet, some scrapings from around the stables was scattered broadcast over the land. The crop was a heavy one. Not far from this lot of three acres was a two acre lot in peas, cultivated in the same way, but no lime was used. Only a half crop was cut from the lot.

T. O. SANDY.

Nottoway Co., Va.

IRISH POTATO CULTURE.

Editor Southern Planter:

While Irish potato growing has assumed large proportions, there is still the certainty that a decided increase, if properly conducted, will bring increased

profits. To accomplish this more attention must be paid to selecting seed, and thorough spraying must continue through the season. The whole year's operations hinge on pure, sound, healthy, vigorous seed. Unfortunately for the Southern trucker habit holds him in an iron grip, and in spite of all that science has given to light the path of the potato growers, we, the Southern farmers, are not ready to let go old traditions, buying our seed potatoes from the North, direct from the commission merchants, and having them shipped South during the severe cold winter months in bags or barrels.

My experience has been, that it would be better to buy the seed potatoes from the originators and growers North and have them shipped South in double-headed barrels just as soon as they are harvested and dried.

Southern farmers can store them in some underground cellar, or potato house, properly ventilated, and protected from frost, and so arranged that sunlight does not reach the seed stock. This point alone is of great value to a potato that is to be used for seed.

The writer has seen, from time to time, many barrels and bags of potatoes remain on the steamboat wharves and in open warehouses as they are shipped from the North. This delay is often due to the farmer's inability to haul the potatoes to his potato house on account of the bad weather or bad roads. When he is ready to plant them, he finds a large portion have to be thrown away on account of rot or from being severely chilled by exposure in the cold weather.

If Southern farmers will get their seed potatoes from the North in October, and keep them in their own potato houses, they will have a smaller percentage of loss, and the convenience of having the potatoes in stock ready for planting as soon as the weather will permit.

The best varieties for early planting in February are the Early Rose, Bovee, Red Bliss, Crown Jewel, White Bliss and Clark's No. 1. Last season the writer tested a potato originated by the Johnson Seed Potato Co., of Richmond, Me., called the Early Johnson, which will prove a leading potato in Norfolk county, Va. All the truckers who planted this potato last spring are very much pleased with it, as it is very early and exceedingly prolific.

I have frequently observed that potatoes do better when the seed is changed by growers every now and then. The grower in the low lands getting his seed from the grower in the highland, and the grower in the highland getting his seed from the grower in the lower country.

I am convinced by experience that the land for planting potatoes in February should be ploughed in November or December, and then reworked. Potatoes demand clean culture, and working the field sev-

eral times during the fall and winter will leave it in the best possible condition for February and March planting in the South.

Machinery now takes the place of hand labor. The work of cutting enough seed potatoes by hand to plant 50 to 500 acres is tedious and tiresome, occupying a number of days, while the use of potato cutters enables the crop to be put in when the ground is in proper condition, and when the season and opportunity presents itself. The potatoes as they are cut should be sprinkled with land plaster, this keeps them from bleeding and rotting in the ground before germinating.

The potato planter scatters the fertilizer in the drill and covers it before the seed falls. Carefully conducted experiments demonstrate that from 1,000 to 1,500 pounds of a special potato fertilizer to the acre will give the best results, and that 1,000 pounds should go in the drill under the seed, and the balance be spread before the cultivator starts.

When the potatoes are ready to break ground a weeder should be run across the field to pull down the beds so that the potatoes can come through the ground quickly.

The trouble with far too many growers is that they wait until the bugs appear and signs of their ravages show themselves before preparing to protect the growing vines. When the vines are fairly above ground, Bug Death or Paris Green mixtures should be applied dry with a special sifter. A little later, say ten days after, begin spraying with Bug Death in connection with Bordeaux Mixture or Paris Green and Bordeaux Mixture, and do thorough work, going over the field, be it large or small, twice in a row, once each way, at least once a week until a day or two before harvesting the potatoes. Success hinges on the spraying of the potatoes. It is here that a majority fail.

For a small planter a Knapsack sprayer, with an agitator and force pump should be used, and the insecticide be mixed in an oil barrel, and stirred each time thoroughly before filling sprayer.

Growers of a large acreage of potatoes should use a horse power sprayer, spraying six rows at a time. The make fitted with an oil barrel fastened so that the staves are parallel with the axle have proven to be the best, as by this method of construction the agitator can be so arranged that it fits close on the inside of the barrel, and can be arranged to revolve when the axle turns without the pump working, thus keeping the solution thoroughly mixed at all times, so long as the sprayer is in motion. The pipes should be fitted on the bottom side of the barrel between barrel and axle, so that all the solution can be drawn from the barrel. With a strong pressure pump, holding an even pressure, and forcing a fine, mist-like spray through the Vermorel nozzles too fine to gather into

drops of water, all parts of every leaf of the plant can be covered. If a single leaf is left unsprayed it will invite rust, and the bugs will be sure of company. For these reasons it is essential that the sprayer be one so constructed as to insure uniform pressure of sufficient power to force the spray into every part of the plant, and over every leaf.

The proper proportions for a mixture of Bug Death and Bordeaux must receive attention. This is made clear in every bulletin. One thing is certain, spraying should begin when the vines are six inches high and be repeated every week or ten days until the potatoes are harvested.

To grow potatoes successfully and profitably improved implements are demanded, the Planter, Weeder, Horse hoe and Cultivator, high pressure six row Sprayer and a Digger, these in addition to the Cutaway harrow, etc., furnish the equipment until time for shipping. They take the work out of the hand operator, and stimulate increased acreage by machinery.

The Irish potato crop is one of immense value to Southern farmers in the States bordering on the ocean, and that value will be increased as attention is given to the fundamental principles for success, which science and experience have demonstrated.

Norfolk, Va.

PERCY L. BANKS.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Cotton Seed Meal.

1. Is cotton seed meal a safe feed for horses?
2. Is it as good for horses as wheat bran?
3. Is cotton seed meal as good for young calves as wheat bran?
4. Would you mix anything else with it for calves?
5. Is it as good for milk cows as bran?
6. Would you mix anything else with it for cows?
7. Is cotton seed meal a good feed for chickens?
8. Is cotton seed meal of any value as sheep feed?
9. Is it as good as bran?
10. Sheep fed red clover and cow pea hay, do they need any grain? If so, what kind?

Rockingham Co., Va.

W. M. HEATWOLE.

Professor Henry, the recognized authority in this country on stock feeding, says: "It may be stated in general terms that when cotton seed or its by-products are fed in reasonable quantity with a proper complement of other feeding stuffs satisfactory results are secured with all farm animals *except calves and swine*." Cotton seed meal being a rich protein feed,

containing as it does 42.3 per cent. of protein and only 23.6 per cent. of carbo-hydrates, is not a safe food for any animal fed alone. It should be balanced by the use of a carbo-hydrate feed like corn meal along with it, and this mixture is improved by the addition of wheat bran, making the ration more bulky and not so liable to become impacted in the stomach. For best results the mixed grain ration should be fed upon chaffed hay, straw or fodder.

1. Horses and mules do well on a ration containing two pounds of cotton seed meal daily mixed with the other grain feed, which may be reduced proportionately. From four to six pounds per day should be the maximum amount fed, and this should be reached gradually.

2. Cotton seed meal is not as safe a feed for animals of any kind as wheat bran. You cannot well feed bran in such quantity as to do injury to any animal, but you may do this with cotton seed meal. Cotton seed meal requires to be fed with discretion and observation of results, and so used is a valuable acquisition. We have had cows to which we could not feed cotton seed meal without injury, and we have no doubt this applies to horses and mules as well.

3. Cotton seed meal is not a safe feed for young calves. We have had reports of deaths caused by feeding the meal even in small quantity daily.

4. We would not feed cotton seed meal at all to calves under a year old. Flax seed cooked or flax seed meal should be used to supply the protein portion of their food. We have used this with the very best results from the time the calves were a fortnight old.

5. As a feed for milch cows, cotton seed meal is most valuable, care being taken not to feed in too great quantity or to cows which have a constitutional inability to assimilate it, which we have found to be sometimes the case. Henry says that the results of the experiments made go to show that "the feeding of cotton seed meal to dairy cows has proved satisfactory, when the allowance has not exceeded five or six pounds daily for short periods, and three or four pounds for long periods." It has the effect of hardening the butter, but if fed in too great quantity will make it light colored and of inferior quality.

6. It should not be fed alone, but in mixture with corn meal and bran.

7. We have had no experience in feeding it to chickens, nor do we find any experiments with it for this purpose reported. We, however, should not hesitate to feed a small quantity in mixture with other grain in the mash feed.

8. We have never fed cotton seed meal to sheep nor can we find any report of the result of its being so fed. We know no reason why fed in small quantity in a mixed grain ration it should not be found a valuable feed for old sheep, but we would not feed it to lambs.

9. See previous replies.

10. Fed plenty of good, sound red clover and cow pea hay sheep will keep in as fine growing condition as these animals ever will do on dry rations. Sheep must always have a succulent ration either in the shape of grass or other forage crops or roots to do well. If feeding for the market, they should have a grain ration in addition to the hay. A mixture of peas, oats and bran with a little oil meal makes the best grain ration for sheep.—Ed.

Storing Corn to Escape Weevil Damage—Analysis of Soils.

1. Which of the two following methods or ways do you consider the best in storing corn: Bring corn to the barn in the shuck or shuck it in the field and then store it in the barn? The people in this vicinity tell me (a newcomer) that a certain weevil destroys the corn in the barn much more if out of the shuck than if in it.

2. Where must or can I write to sending samples of the various soils on my farm in order to ascertain what the soil is in need of in order to bring at least fair, if not good, results with corn and hay, alternately. I mean, what fertilizing will be necessary in addition to green manuring as advised by you, and followed by me, in the shape of cow peas, crimson clover, etc.

SOUTHERN FARMER.

Virginia.

1. There are several so-called weevils which do injury to grain, but the most common in the South are the Granary Weevil, a wingless beetle found only in barns and corn houses, which have been allowed to become infested with it by not keeping them cleaned out thoroughly every year after the grain has all been used. This beetle can eat through the shuck as easily as through the grain, and therefore it matters little in which form the crop is stored. If the beetle is there it will get into the grain. The remedy for it is to clean out the barn or corn house thoroughly some time before corn is to be stored, and to burn all the trash swept out at once. This beetle, however, is not usually the weevil doing the greatest injury to grain in the South. The real culprit is the larvæ of the Anguimoid grain moth, which practically breeds all the year round here. It breeds in the wheat in the field in summer and early fall, and later in the

stacks and stored wheat. Preferring wheat to corn, it does not usually trouble corn until it is ripe and shucked, and then it but rarely attacks it if husked in October and November, and kept stored in slatted bins out of doors all winter. If corn is stored in a close barn after it is husked it is almost certain to be attacked by this pest. Bisulphide of carbon will kill both the weevils mentioned and their larvæ if the grain affected be enclosed in a tight bin or room and the bisulphide be placed on the top of the grain in a saucer and be left there for forty-eight hours. The grain should then be exposed to the air before being used. This remedy is effectual, but difficult to use, as so few barns or corn cribs are sufficiently tight to confine the vapor. Bisulphide of carbon should be kept away from all lights, as it is very explosive. Cleanliness is the best practicable remedy. Clean out all barns and corn cribs in the spring and summer, and keep them clean and burn all trash and grain swept out. It is in this trash that the weevils exist until the coming of new grain. The best way to handle the corn crop in the South to avoid injury from these weevils is to cut it down at the root, set it up in shocks in the field to cure, and then in October or November shuck out the grain and place it in a slatted corn crib with a good circulation of air around it, and place only the fodder and shucks in the barn.

2. Analysis of soils with the view of ascertaining the fertilizer needed is practically of no value to a farmer. The chemist in his laboratory can, with the aid of powerful solvents, find plant food in the soil which no plant under normal conditions of growth can make available. The only practical way to ascertain the requirements of the soil is to have a series of plots, say of one-tenth of an acre each set out on a level field of the farm, of the average fertility of the farm, and to plow and cultivate these alike in every respect, applying to each plot a different form of plant food or plant food in different combinations, and the crop results will tell the tale unmistakably as to the requirements of the soil.—Ed.

Sweet Potato Culture—Black Eye Peas.

1. Will you kindly give the best method of cultivating sweet potatoes? I notice that the yield of sweet potatoes in Eastern Virginia is vastly greater, and that the potatoes attain a much larger size than beyond the Blue Ridge, where the method of cultivation is entirely different. Would you advise sweet potato slips set from four and one-half to six inches apart in high ridges, as they are planted in Southwest Virginia? When and how should the hot bed be made?

2. Please tell also when and how the famous Black eye pea should be planted so as to produce the best results for table use.

AN INEXPERIENCED GARDENER.

Grayson Co., Va.

1. Much of the success attained in growing sweet potatoes in Eastern Virginia arises not from the method of cultivation, but from the natural adaptability of the soil and climate of that section to the crop. The sweet potato requires a warm climate and a well drained sandy loam soil, and both these are met in Eastern Virginia. The character of the soil has much to do with the quality and success of the crop. When grown in a damp clay soil the table quality of the tubers is never good. The land should be rich in vegetable matter, and be in fine tilth. They generally do best following a hood crop, like corn or some vegetable crop, and it is a good practice to sow clover in this crop at the last working to cover the ground during winter and be turned under in May. Crimson clover sown in September or October makes a good preparation of the soil. The land should be broken deeply and be finely worked. If the land is low and inclined to be wet it is best to plant on ridges. These should be three feet apart. If the land is dry, sound land, the plants may be set on the level. The plants should be set ten inches apart in the rows. A complete fertilizer should be used. Where the land is poor this may be made up of 100 pounds of nitrate of soda, 300 pounds of acid phosphate, and 100 pounds of muriate of potash per acre, or from 10 to 15 tons of well rotted farm-yard manure may be used with 50 pounds of muriate of potash per acre. Plenty of potash in the soil is essential to success. The hot bed to raise the plants should be made up about two months before the plants will be needed to set out. The end of May or beginning of June is early enough to set out the plants. The hot bed should be made of fresh horse stable manure, and should be about twelve inches thick. The manure should be tramped solid and left to heat. In a week or ten days the heat will have moderated sufficiently for the bed to be covered with three inches of soil, and the tubers may then be laid in this soil and be covered with sandy loam soil two or three inches deep. The bed should then be covered with sash or boards to keep out the rain. Keep the bed just moist, but not wet or the tubers will rot. Slips may usually be drawn in about four or five weeks after bedding the tubers. There is a little book published called "Sweet Potato Culture" for profit, by Prof. Price, price 50c., which will be found full of valuable information. We can supply it.

2. The Black eye pea should not be sown until the ground is thoroughly warm, say in the end of May or beginning of June. Plant in rows, two feet six inches apart, dropping the peas two or three inches apart in the row. If the land is not rich, apply three or four hundred pounds of acid phosphate per acre. Cultivate three or four times to encourage growth, and keep down weeds.—Ed.

Private Distillery—Planting Irish Potatoes in Winter.

1. Can a person distill sufficient liquor for his own use without paying a license in Virginia?

2. Please give full information as to planting potatoes in December, and what can be used for a mulch.
Henrico Co., Va. T. E. P.

1. We are not conversant with the rules and regulations of the Internal Revenue Department as to the distilling of liquors, but believe that no such work can be done without license from the Federal authorities. Enquiry at the office of the Department in the post-office at Richmond will no doubt secure the desired information.

2. For several years past Irish potatoes have been planted in November and December in the Eastern and Southern parts of this State and the Eastern sections of North Carolina, and we have had very satisfactory reports as to the success attained. It is important, however, that attention should be given to the following rules when setting: Select a piece of dry, sandy loam land and lay off the rows three feet apart after breaking the land deep and working it fine. Run the plow twice in each row, thus throwing the soil out to a good depth. Scatter a good potato fertilizer in the bottom of the furrow and run the cultivator through it to mix it with the soil. Then drop the sets the usual distance apart and cover lightly with soil. On the top of the soil put a good covering of farm-yard manure, having plenty of straw or other vegetable matter in it, and plow on to this manure a furrow from each side, thus making a ridge over the sets. Early in the spring or as soon as the weather becomes mild, run a harrow over the rows to level down the ridges somewhat. If the potatoes should push through before danger of hard frost is past plow a light furrow on to them as soon as they are seen.

Wherever the climate is mild enough during winter to ensure that the soil will not be frozen hard for more than an inch or two deep, this practice of planting Irish potatoes in the winter months may be and ought to be practiced, as it relieves the pressure of work in the spring. Several growers have told us

that they make better yields planting in the winter than in spring.—Ed.

Clover Hay for Poultry Keepers.

Will you please give the names and addresses of growers of alfalfa or other clover hays?

Why does not some enterprising Southern farmer make a business of putting up clover hay for poultry? We have thus far been obliged to send to New York State for our supply. We would prefer keeping our money in the South.

THE ROSELAND POULTRY KEEPERS' CO-OPERATIVE ASSOCIATION.

Roseland, N. C.

Growers of alfalfa and clover will please note this enquiry and communicate with the enquirer.

Not necessary to send to New York for clover.—Ed.

Smoke House.

Can you tell us either by mail or through your excellent paper what is the best modern way to build a smoke house?

SUBSCRIBER OF SEVERAL YEARS.

The requirements of a good smoke house are that it shall be sufficiently tight to hold and confine the smoke around the meat, but still have an opening in the roof sufficiently large to allow the smoke to pass out slowly, thus keeping up a constant current of smoke past the meat. Where the smoke is too closely confined the meat will become too strongly impregnated with the creosote flavor to be nice. A brick or frame house six feet square and seven feet high, with a brick or concrete floor and a chimney in the centre of the roof one foot square will meet the requirements of a family smoke house. If a frame house be built, it should be lathed and plastered inside. A door should be fixed in one side, which should be lined with zinc.—Ed.

Worms in Cabbage.

There is a great excitement in Southwest Virginia and Eastern Tennessee about what is called the *Cabbage Rattlesnake*, claimed to be found in the stem of the leaf of the cabbage head. It is about the size of a horse hair and some five or six inches long, and is said to be deadly poison. There have been some deaths reported from eating cabbage containing the worms, and others very near dying.

Scott Co., Va.

A SUBSCRIBER.

As we were unable to give any information on this worm, we wrote the Department of Agriculture on the matter, and the following is the reply received:

The creature which you mention is without doubt

a hair-worm, *Mermis albicans*, the species which was so much complained of last year. You will find an account of it in one of the concluding paragraphs of Bulletin No. 44, copy of which I send you under separate cover. With the same mail we have received a communication from a Dr. Leroy, of Nashville, Tenn., who has made observations on this creature which, you may know, is not a true insect, with the result that he found that it possesses no toxic (poisonous—Ed.) properties whatever. You state that the worm is found in the stems of the leaves of cabbage. This is the first report of this nature that we have received. If this could be verified we would be very glad to receive specimens. Some additional notes on this hair-worm and some other species will be issued as soon as opportunity offers, and I will send you a copy when it is available for distribution.

C. L. MARLOW,

Acting Chief of Bureau.

The bulletin mentioned does not add anything of value to what is above stated.—Ed.

Plant For Name.

I enclose a section of a vine growing here in moist land. The vine is running on some elders, and there are tubers from which they grow about the size of pheasant eggs. The tubers grow in a string and are attached by small roots the size of small straw and a tuber forms about every eight inches. Hogs eat these tubers in winter. Please give name.

Nicholas Co., W. Va.

A. J. LEGG.

The plant sent for identification is ground nut, *Apios apios*. This plant belongs to the pea family, and is native in open woodland throughout the eastern part of the United States. It has no economic value, so far as I am aware, aside from the fact that its tubers are relished by pigs. It rarely grows in sufficient abundance, however, to furnish a very large proportion of the food consumed by hogs.

LYSTER H. DEWEY, Botanist.

Bone Meal as a Permanent Improver.

I am anxious to get information about pure bone meal, as a permanent improver. I have a nice farm, level and well located, that I wish to improve as fast as possible. Have laid it out into four shifts so as to have one shift resting every year. I raise corn, wheat and tobacco. Will subsoil one shift and sow oats and clover. Wish to use 300 pounds of bone meal and 100 pounds of some good fertilizer per acre. Will sow last of March or first of April. Will get oat crop and second year one crop of clover (first growth), and turn under second growth so as to heavily seed the land, then sow in wheat and rotate, and

rest, as above stated, and get all shifts set in clover, and when sown in small grain will get a clover crop. Will use bone meal all along. Will this in a few years improve my land and permanently so as to save me the expense of using fertilizers every year? How would lime act in connection with the bone meal? Can you give me prices of pure bone meal and names of manufacturers.

J. L. JONES.

Forsythe Co., N. C.

As a fertilizer for the permanent improvement of land bone meal is of the highest value. The only reason why it is not more largely used is its cost and the fact that it is slow in action, but of its permanency there can be no question. For quick action acid phosphate should be applied. Bone meal supplies two of the essential forms of plant food, phosphoric acid and nitrogen, but its main use is as a supplier of phosphoric acid. The average percentage of phosphoric acid in pure bone meal is 23 per cent., with 4 per cent. of nitrogen. If your land lacks potash, the use of bone meal alone will not give you the best results. Indeed, if, as you say, you intend to grow tobacco, it will be absolutely essential for you to apply sulphate of potash in addition to the bone meal to secure a fine quality and good crop of tobacco. Phosphoric acid alone on tobacco will give a coarse quality of product. If you succeed in establishing the clover rotation, as you suggest, this crop and the bone meal will give you all the nitrogen and phosphoric acid you need. The application of 25 to 50 bushels of lime per acre once in each rotation will help largely to secure the clover, and will also improve the physical and mechanical condition of your land, and make available the natural supply of potash in the soil, and thus lessen the quantity of potash needed to be applied to make the tobacco. This lime, however, should not be applied at the same time as the bone meal, but some time before, say on the clover fallow when plowed in the fall for the corn crop, and the bone meal then be applied in the spring, when working the land before planting the corn. All the farmyard manure you can make should be applied on the clover sod for the corn crop, and if this be done and the supply be liberal, no bone meal need be applied to that crop.

You will get bone meal as cheap from the seedsmen advertising in our columns as from the manufacturer. A large part of what they grind is sold to the seedsmen, who retail it. We know of no bone mills in your section, but if you write the State Department of Agriculture at Raleigh they will no doubt be able to give you the names and addresses of such mills as are in your State, and you can then

get their prices for comparison with those of the seedsmen. Bone meal is now quoted at from \$25 to \$28 per ton.—Ed.

Cow Failing to Breed.

Will you please publish some remedy to make a cow breed? I have one that has had the service of three different bulls without success.

A SUBSCRIBER.

The Dairy Association of Lyndonville, Vt., advertised a remedy for this trouble in our columns last year. How effective it is we do not know by personal experience, but they publish numbers of testimonials from responsible parties. Of course, there are cows, like there are animals of all kinds, which are naturally barren, and no remedy will be of any service if you cow is in this class. A cow a twin with a bull will never breed. She is what is known as a free martin.—Ed.

Peach Yellows.

Please describe peach yellows, and could you tell if my trees had yellows if I were to send you some twigs?

SUBSCRIBER.

Monroe Co., W. Va.

Peach yellows is very easy to recognize. Instead of the leaves growing on the twigs in a normal manner the branches put out small wiry shoots, on which the leaves grow in bunches and turn yellow. The fruit ripens prematurely some weeks earlier than usual, and is insipid in flavor and with purple discolorations of the flesh.—Ed.

To Destroy Warts on Animals.

Please give me directions for curing warts on a mule. I have a mule with a large wart on breast and one in ear. These have been growing for about a year.

A. H. ROGERS.

Darlington Co., S. C.

Warts are essentially a morbid overgrowth of the superficial papillary layer of the skin, and of the investing cuticular layer. The smaller ones may be clipped off with scissors and the raw surfaces cauterized with bluestone. The larger may be sliced off with a sharp knife, or if with a narrow neck, they may be twisted off and then cauterized. If very vascular, they may be strangled by a waxed thread or cord tied around the neck and the ends being fixed by passing them beneath the last preceding turn of the cord, so that they can be tightened day by day as they slacken by shrinkage of the tissues. If the neck of the wart is too broad it may be transfixed several times with a double threaded needle, and then be tied in sections. Very broad warts that cannot be treated

in this way may be burned down to beneath the surface of the skin with a soldering iron at a red heat, and any subsequent tendency to overgrowth kept down by bluestone.—Ed.

Cotton for Seed.

Please tell me whether cotton seed from the first or second picking is best for seed to plant next year.
Camden Co., N. C. J. B. ELLIOTT.

The seed from the first opening cotton will usually produce a larger and better stapled cotton than that from the later opening.—Ed.

Bermuda Grass.

Kindly inform me if the "Bermuda Grass" of the South so often mentioned now, is the same thing as our "wire grass" of East Virginia. Have you any experience with Bermuda grass for summer pasture, and Burr clover for winter, growing together on same ground same time? Will not some reader of our splendid SOUTHERN PLANTER give me their experience with the above mixture for summer and winter pasture. L.

Norfolk Co., Va.

Bermuda and the wire grass of Southeastern Virginia are the same grass, but Bermuda is not the same grass as is known in the North and Northeastern States as wire grass. Personally, we have had no experience in the use of Bermuda and Burr clover mixed, the one for summer and the other for winter grazing. Where the Burr clover grows freely in the winter we should suppose they would make a good all the year round pasture. The Hairy and English Vetch have been grown with Bermuda in several of the Southern States to meet this requirement with success. How far the vetch will meet the requirements of a winter grazing crop in this State remains to be tested. It makes good early spring grazing.—Ed.

Corn—Annual Clover.

I have a piece of land that I have had in corn and annual clover for the last four or five years. I turn the annual clover in the first of June and plant it in corn. I have the best crop of corn on it this year that I have had for several years. Do you think this ought to be changed, or do you think I can keep on working it this way? When I lay the corn by I sow it in clover and graze the clover and turn in what is left and plant it in corn. Wish you would let me know what you think of this. Also please let me know what kind of fertilizer you would advise using on the corn after turning in the clover.

Southampton Co., Va. J. L. CAMP.

If you will only supply the land with sufficient phosphoric acid and potash to meet the constant drain

on the mineral plant food of the soil, you can continue this rotation indefinitely. You should apply 300 pounds of acid phosphate and 50 pounds of muriate of potash per acre one year and 50 bushels of lime per acre the next. This should keep up the fertility of the land.—Ed.

Blue Thistle.

I have a piece of land that has on it what is known as the blue thistle, and it has damaged the land very much. Will some reader of your valuable paper advise me some way to get rid of this growth. I will appreciate very much.

W. S. LEWIS.

Halifax Co., Va.

Will some one with experience please reply. Our own experience with thistles is that the most important point is to prevent seeding by cutting off before flowering. The roots may be eradicated by cultivation or the spud.—Ed.

IMPROVING THE LANDS OF EASTERN VIRGINIA.

Editor Southern Planter:

Bulletin No. 99 of the Rhode Island Agricultural College, at Kingston, covers a ground of immense importance to Virginia farmers east of the Blue Ridge. It says: "The prime object of the experiment was to see if by the use of only a small amount of stable manure, supplemented by chemical manures, or by the sole employment of chemicals, it was possible to renovate exhausted soil and to subsequently maintain its fertility at a profit."

Such an experiment is precisely what the whole Tidewater region of Virginia demands, and no work of our Agricultural College and Experiment Station is of such paramount importance as the problem of turning our exhausted farms in this section into profitable productiveness by comparatively inexpensive means.

The SOUTHERN PLANTER, in its able advocacy of the grasses and their sequence, stock of all kinds, and in its intelligent teachings how best to grow all most successfully, is doing a noble work for Tidewater Virginia, and could it have the co-operation of the State in broad experiments upon these wildernesses of abandoned and exhausted farms, even the limestone region would soon be equalled in fertility and in growth of stock and grasses.

Ballston, Va.

R. S. LACEY.

We have been much disappointed that the test farm at Saxe, in Charlotte county, Va., has not done work on these lines ere this and reported results. It is located in a section where such work could be done and much needs to be done, and under proper direction would be done. We have heard much complaint as to the little benefit yet derived by the farmers of East and Southside Virginia from the establishment of this place.—Ed.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The harvesting and gathering of all the summer grown crops and the preparing of the land and the planting of the winter growing crops for early spring shipping and use will find plenty of employment for truckers, gardeners and orchardists this month.

All vegetables should be dug and gathered as they mature. Do not leave root crops (except carrots, salsify and parsnips) in the ground after they are matured. They are very apt to commence a second growth in our mild falls, and this spoils the keeping of the crop and also the eating qualities. In our article on "Work for the Month" on the farm we have given advice as to the storing of Irish and sweet potatoes, and to this we refer readers. Carrots, parsnips and salsify will usually keep well left in the ground where grown, but it is wise to pull part of the crop and store away in the cellar, preferably in sand in order to provide a supply if the ground should become hard frozen.

The ripe lima beans and navy beans should be gathered and stored away in a dry room, after the pods are dry, to be shelled at a convenient opportunity for winter use. Navy beans may also be stored away in the haulm after the plants have been pulled and thoroughly cured, and can then be threshed out during winter and be cleaned and sorted for use or sale. There is always a good demand for these dried beans all winter. The same remark is true of black eye peas, which should always be carefully harvested and saved.

In the orchard the work of gathering the apples and pears should have attention, and as this year we have only a small crop in the South, it should be carefully husbanded. Let the crop be gathered, and not, as is too often the case, be knocked off the trees with poles. Every bruised apple means a rotten one in a very short time. Carefully cull the fruit and store away or ship only the best and soundest. Let the culls be at once used either for drying or for cider or vinegar making, or for consumption. The fruit required for home use should be stored away in a cool, dry cellar or room on slatted shelves or bins. Apples will keep well with the temperature near down to the freezing point, but should not be frozen. The surplus for the market should be packed in boxes or

barrels, and be put in so that they will not shake loose and be headed down under pressure. We believe that there is room for a departure from the usual custom of packing apples in barrels which would result in profit to growers. There are thousands of people in all towns who would be willing to buy a bushel or half bushel of apples put up in a box or basket, who will not buy a barrel at once. This class of people should be catered to. They will be willing to pay something extra for a package which they can handle easily.

Onion sets should be planted out for the spring and early summer crop. For green onions in the spring the Potato or Multiplier onion is the one to plant out. Set in rows wide enough apart to allow of cultivation with the horse and plant in the row six inches apart, just deep enough to cover part of them. The rows should be on a slight ridge made by throwing two furrows together over the fertilizer or manure, and this ridge flattened down somewhat with a roller. Make the land fine and rich. A fertilizer made up of 200 pounds of nitrate of soda, 750 pounds of cotton seed meal, 750 pounds of 12 per cent. acid phosphate, and 300 pounds of muriate of potash to make a ton will be found a suitable one. Apply at the rate of from 500 to 1,000 pounds to the acre. The Queen, sometimes called the Pearl, is about the best variety for planting to make bulbs for selling as dry onions in the early summer. It keeps better than the Potato onion.

Towards the end of the month cabbages may be set out for the spring crop. Make the land fine and rich. Cabbages are gross feeders. Run the rows east and west, put most of the fertilizer in the laying off furrows, and bed on them. Then set the plants near the bottom of the bed on the south side. This will give them the protection of the ridge during winter. See that the plants are not allowed to dry out before being set. They are best set right out of a bucket of water, in which they have been placed as pulled from the seed bed. Make the rows two feet six inches apart, and set the plants fifteen inches apart in the rows. A good fertilizer for cabbages where farmyard manure is scarce can be made by mixing 300 pounds nitrate of soda, 750 pounds cotton seed meal, 750 pounds of 12 per cent. acid phosphate, and 200 pounds of muriate of potash to make a ton. Apply

at the rate of from 500 to 1,000 pounds to the acre. The best variety to plant is the Jersey Wakefield.

Kale and spinach should be sown for winter and spring cutting.

Celery plants should be earthed up a little to keep them from spreading, but unless wanted for an early market it is too soon to earth up the plants to bleach them. They will yet make considerable growth. When earthing up celery to bleach care should be taken to keep the soil out of the hearts of the plants. Each plant should be drawn together in the hand and so held until the earth is pressed close around it. Some tie the plants together with a soft cord or string before commencing to earth them.

Rake up and burn all trash and waste in the vegetable and flower garden, and sow land not needed for other crops in crimson clover or hairy vetch and oats or wheat to conserve fertility and make vegetable matter for plowing down in spring.

Strawberry plants may be set out this month. An ideal place in which to set them is a piece of land that was made rich for growing Irish potatoes. They do better on such land than where the manure or fertilizer is applied in large quantity at planting. Cotton seed meal is a good fertilizer to use when setting out the plants. Apply in rows and mix with the soil, then bed on these rows two feet six inches apart and set the plants fifteen inches apart in the rows. Open good holes large enough to spread out the roots and plant just deep enough to cover all the roots of the plant, but not the crown. Make them firm in the ground by pressing the soil closely to them. Good plants carefully set out in good land now will make a small crop next year.

THE PEAR AND PEAR BLIGHT.

Editor Southern Planter:

The pear is one of the most extensively cultivated and valuable of the fruit trees grown in temperate climates. The apple is the king of the tree fruits; the pear ranks next; and the peach is ahead of the orange. Pears have been cultivated from the remotest antiquity. They are mentioned in the oldest of the Greek and Roman writings. The trees grow wild in the woods and copses of Great Britain and on the continent of Europe and throughout the temperate parts of Asia. In the wild state it is usually

either a large shrub or small tree, thorny, and with small, austere (or sour, harsh to the taste) fruit. In cultivation it becomes a tree forty or fifty feet high, without thorns, and the fruit is wonderfully improved in size and flavor. The dwarf trees for planting in gardens are obtained by grafting on quince stock. They come into bearing a little sooner than standard trees, and are much shorter lived. Standard trees planted in good soil, if they can be got safely past the blighting period (which is while they are young and growing fast) will live to be a hundred years old. A tree in a neighbor's garden, he says, is seventy-nine years old and still alive, though showing signs of decay. A tree planted by my father, and still alive, cannot be less than seventy-five years of age. It is said that some pear trees planted on the banks of the Mississippi, by the French Jesuits in 1772, are still alive. Pears were of such miserable quality and so lightly esteemed for eating in England 150 years ago, that the trees were chiefly planted to raise timber for making furniture, and the fruit was made into "perry"—a fermented cider made from pears in the same manner in which cider is made from apples. In Hale's *Husbandry*, published in 1758, it is said: "When the tree has begun to bear the produce will be yearly very great; and the fruit, though poor in taste, will yield a great profit if made into perry, which is easily done."

Among the enemies of the pear is the pear weevil, which eats into the core of the pear like the worm into the apple, and was unfortunately introduced into this country in 1881 in some grafts obtained from France.

More recently the San Jose scale calamity came, but the direst enemy to this fruit is the fire blight, which has always been with us, and attacks other fruit trees, only with less virulence.

We are all liable to make mistakes, and possibly I made one in my recent article on pear blight, but I am not yet convinced of this. The best scholars and investigators are not exempt. The learned men of Greece and Rome who founded the different schools of philosophy, made huge mistakes in science and theology. Tytler, the historian, says: "The Greek philosophy, on the whole, affords little more than a picture of the imbecility of the human mind."

There are many things about the diseases of plants and animals that are supposed to have been thoroughly settled, which will not stay settled because they have not been settled right. Banquo's ghost will not stay down. The presence of microscopic bacterial forms in the sap of a blighted pear tree limb

does not prove that they killed the limb, any more than the presence of the maggots in the dead horse proves that they killed the horse. The bacilli found in the blighted limb might have generated there after the limb was dying from some unknown cause. The advocates of the bacillus theory will admit this, but claim that as a certain form of these, when separated from all other forms present, and when this certain form has been introduced into the growing tissues of healthy trees continues to grow and will cause the blight, then the evidence of the bacillus theory is too strong to be doubted. They think that if the bacilli came to the limb after it was blighted, and were not the cause of it, then they would not be able to reproduce the blight when inoculated into healthy trees.

It would be strange if these bacilli, after having gorged themselves to the full, and sported in the poisonous sap of the blighted limb would not be able to convey the poison to the healthy tree. It would be passing strange if the crow, after having banqueted on the dead horse, did not bear away some of the rotten flesh and stench to his rookery.

Arsenic and other mineral poisons (which certainly do not contain bacilli) are destructive to trees and plants when introduced into the sap. (We doubt this.—Ed.)

The Hon. W. R. Barnhart, in his address before the Pennsylvania Horticultural Society, said: "We have the blight on the pear and quince, which is hard to understand and account for. Why, and what is blight? Is it an insect, or is it the result of atmospheric influences? I am not so clear on this being an insect. Why was it that last season, in the extreme dry heated term my whole quince orchard of several hundred trees was blighted all over for a foot or so in the ends of the limbs or branches, and this appearing to have been done in a few days, as though it was by hot air, similar to the hot air blighting of the corn in some of the Southwestern States. Pears with us were much more injured last season than for years past. Trees that had stood the trial or test for years were in a few days blighted all round, and many entirely destroyed. Could this insect (if insect?) get in its work so effectively in so short a time?"

As previously stated, I had a young tree loaded with half grown pears that had every leaf blighted in one day, as I positively know, and the tree died. A billion of bacilli could not have killed it so quickly.

J. W. INGHAM.

We think the evidence in favor of the bacilli origin

of fire blight very strong, and have always so advised, but such cases as those quoted above throw doubt upon it.—Ed.

THE TEMPERATURE FOR KEEPING APPLES.

In commercial practice a temperature of thirty-one to thirty-two degrees Fahrenheit in the warehouse retards the ripening of the fruit more than a higher temperature. It also checks to a greater extent the development of diseases and of scald. When the fruit is removed from the warehouse to a warmer temperature it remains in good condition longer when taken from a temperature of thirty-one to thirty-two degrees Fahrenheit than when removed from a higher storage temperature.—Year Book of the Department of Agriculture for 1903.

THE "TOM TAGGART" TOMATO.

The Baltimore Sun of September 1, 1904, says: "M. Kercheval, the veteran printer at the Farmers' Advocate, Charles Town, W. Va., has not only solved the problem how to raise large tomatoes, but smooth and perfect specimens as well. He has had on exhibition the past two weeks several dozen in the show windows of Brown & Hoof's drug store that have been admired for their large size and beauty. One single tomato weighed 42 ounces, while six dozen taken from the vines at one time tipped the scales at 89 $\frac{3}{4}$ pounds." He has only 24 vines under cultivation, and from the first of July up to this period has taken off 23 dozen, aggregating in weight 281 pounds, besides smaller ones that have been used for canning and eating purposes, and the vines are now well laden with fruit. This variety of tomato is a seedling of the "Crimson Cushion," and has been named by Mr. Kercheval the "Tom Taggart," in honor of the Chairman of the Democratic National Committee.

WRAPPING FRUIT.

Every year we are learning to put up our fruit with more care. The improvement comes both with the fruit grower and with the consumer. The market is becoming more refined, and customers are willing to pay more for a fancy article put up in a tasteful fashion. The use of the box for shipping apples is a step in this direction, and the wrapping of the individual fruits in paper is another step. Experience this year has shown this last step a very important one, for it materially increased the prices realized.

Live Stock and Dairy.

WILL IT PAY TO FEED CATTLE?

Usually when asked this question we have no hesitation in advising that it will do so, provided only cattle of a good type, pure bred or high grade stock of the best beef types, are selected and given proper care and attention and fed well-balanced rations. It will pay not only an actual cash price for the corn consumed more than can ordinarily be realized from the sale of the corn, but will enable a large part of the roughage of the farm to be converted into manure at a profit, and this applied to the land will result in a great saving in the fertilizer bill, and thus give another profit, while the manure so applied will result in much better and more certain crops than will commercial fertilizer. Asked the question at this time we have hesitation in advising feeding this winter. For the man who has the stock raised on the farm it may pay, but for the man who has the stock to buy we are of opinion that the direct profit will be doubtful. The strike at the great stock yards, just brought to a conclusion after weeks of strife, has so disorganized the markets that there are to-day thousands of cattle from the ranges and from summer feeders unsold, which ought long ago to have gone into consumption. These cattle now are an incubus on the market. They must in many cases be sold at any price that can be had for them, as the owners have nothing to feed them on, and cannot afford to buy corn at the price which it bids fair to command. In our opinion the corn crop is going to be a short one, probably 300 or 400 million bushels less than that of last year. This will naturally result in a higher price, especially when taken in conjunction with the fact that the corn crop in Southern Europe, which usually largely supplies the English and other European markets, is a complete failure. When these two factors, the excess of beef stock waiting consumption and the probable high price of corn are taken into account, stock to be purchased at a price to pay for feeding will have to be bought very low, and we doubt much whether it is going to be practicable to buy at such a rate as will leave a margin of profit to be made on the feeding adequate to cover the risk. We always hate to discourage the feeding of stock of any kind as it is our well grounded opinion that in the South and East, at any rate, and probably in the West as well, only through the consumption on the farm of the long feed and forage crops and a very large part of the corn produced on the farm, can an adequate return be made for the labor and outlay ex-

pendent in the work of the farm, but circumstances are such this year that we think it right to utter a word of caution to those who have stock to buy, if this system is to be followed.

GETTING THE HOGS READY FOR KILLING.

Begin feeding the hogs which you intend to butcher a ration of corn every day so as to push them to maturity. Pastures are beginning to lose their nutritive value, and unless the hogs are on peas, corn, sorghum, soy beans or peanuts, with plenty of grain and nuts fairly matured on them, they are not likely to continue making the progress they ought to do for early killing. A mixed grain ration will be safer to feed than new corn alone, and the hogs will do better on it. Gradually get them on to grain alone, so that the meat will become firm and the fat solid before killing.

EXPERIENCE WITH FRESH COWS.

Editor Southern Planter:

A Maryland dairyman not long since wrote: "The cow eats the placenta (after-birth) because nature implants in her at that particular time a great craving for it. I do know that if a cow refuses to eat it serious consequences may be looked for."

This is no doubt true in regard to this dairyman's cows, else he would not say so. It may also be true, for aught I know, of many other dairymen's cows; but it is not the case with our cows. I have kept from 10 to 12 for forty years, and attended to them personally when calving; have removed the placenta when it would not come away naturally in twelve hours after calving, and can truly say that not more than one in ten of them ever wanted to eat the placenta any more than they wanted to eat the calf. In my opinion, it is a *morbid*, and not a natural, appetite. It is the same unnatural craving which causes some sows to devour their young pigs, and cholera stricken hogs to eat their own poisonous evacuations, as I have seen them doing; again taking into their stomachs the murderous microbes that were destroying their intestines.

Nature's work is done by general rules. If nature implanted the appetite in the cow at that particular time, it would have been implanted in all cows, and presumably in all grass eating animals. Treating a freshly calved cow to a bucket of warm water, in which a quart of wheat middlings or a pint of linseed

meal has been stirred is all right. A cow at such a time is thirsty, and she also needs a little nourishment. The great danger is in feeding too much milk producing food, and here I think is where too many farmers err. They are anxious to have their cows do well, and are too generous of their grain feed at first. It is always the very best cows in the herd that suffer with milk fever, inflamed udder or "caked bag," and they frequently die from the first. The aim should be to retard, instead of stimulating, the flow of milk. I never give our fresh cows a full ration of meal in less than a week after they calve, and not then unless the hardness in the udder has subsided. I give them all the hay they will eat, and a moderate feed of wheat bran.

Desirous of making their cows do well, some farmers commence feeding them generously with meal before they calve. In my opinion, this is a mistake. If the animal is poor, it will only make her weaker by starting a premature flow of milk, which will be sure to cause inflammation in the udder. I have had to milk some of our cows a week before they calved in order to prevent them from having "caked bag." When they get it, as some of them frequently do, my remedy is to leave the calf with the cow, and milk her three times a day if the calf does not keep the udder empty. I have a bottle of ammonia in the stable and bathe the udder once a day with that, and twice or three times a day with brine or soft soap. Ammonia, if used too often, might prove too strong a "counter irritant." The more the udder is rubbed the better, and it may be the "massage" is better than the medicine.

RETENTION OF THE AFTER-BIRTH.

There used to be a dread on my mind before our cows calved lest some of them should retain the after-birth. I did not know how to remove it, and there was no person in the neighborhood who did. To leave it to rot away I knew was the ruination of the cow for the whole season. They tell about attaching a pound weight to the protruding end of the placenta, and also seizing the mass between two pieces of wood and dragging gently, moving it from side to side, to stimulate the womb and cause its expulsion. They also recommend giving the cow physic, ginger, pepper, etc. All these, in my opinion, are childish remedies, and when they are effectual the cow would have cleaned just as well without them. When our cows retain the after-birth more than twelve hours, I know it must be removed by the insertion of the hand and pinching off the adhesions which seem to have grown fast to the inner surface of the womb. If not ac-

tually grown fast, the connection is too strong to be separated except by pinching off the connecting ligaments. I learned how to do this, not from choice, but from necessity, as there was no competent person in our neighborhood to be employed.

J. W. INGHAM.

The connections between the placenta and the womb, called technically *cotyledons*, ought not be pinched off, but unbuttoned. They each loop into a sort of buttonhole.—Ed.

THE NODULAR DISEASE IN SHEEP.

Editor Southern Planter:

As there is some discussion at this time in yours and several other agricultural journals about knotty or lumpy intestines, by some termed nodules, in sheep, allow me to say in reply to Mr. Waller's enquiry about this disease in the May number of the *PLANTER*, that as his feed was corn and fodder, all sheep fed on corn exclusively as a grain ration have knotty or lumpy intestines in proportion to the quantity of corn fed. The lumps contain a piece of a grain of corn bitten to a sharp edge by the sheep, and he will find the corn in different stages of decay, depending upon the time the pieces entered the intestines, if he will cut into the lump. My examinations was made when I lost sheep about two months after the commencement of feeding corn. If he will crush his corn or change to some other feed his losses will not be half. I found some of the lumps larger than Mr. Waller represents.

R. E. MILLER.

Rappahannock Co., Va.

As the impression that the foregoing is a true explanation of the cause of nodular disease of sheep appears prevalent, we have published the same in order to enable us to correct this false idea. Dr. Henry Stewart one of the highest authorities on sheep in this country, says: "The cause of this disease is a round worm, and one entirely distinct from any other known species. The male is about half an inch in length, the female a little longer. The head of it is bent into somewhat the form of a hook. In the sheep the adult worms live in the large intestines; the young ones are found in all parts of the bowels encysted in small tumors at first no larger than the head of a pin filled with a sort of cheesy matter. How the parasite enters the sheep there has been no satisfactory information gained so far. The nodular swellings or tumors are found on the inner walls of the intestines. * * * The tumors increase in size as the worm within grows. In time the worms escape and remain loose in the intestines, there becoming full grown and reproducing their kind." The

grain food fed to the sheep has nothing whatever to do with the formation of these knots or nodules in the intestines. It is believed by many that the worm passes part of its life in the ground, and that the sheep get them by grazing on old pastures infested with the worms or the embryo from which the worm comes. One thing is certain that if sheep are clear of the disease and fed on new pastures or on annual grown pastures like grain pastures or rape they never or rarely develop the disease whatever grain be fed them.—Ed.

SOME EXPERIENCE IN BUYING AND SELLING CATTLE.

Editor Southern Planter:

We often read articles as how to fatten cattle, but I have not read one on how to sell cattle. I think it has been truthfully stated that when a crop is grown only half the important work has been done—the other half being to market it to best advantage. But before one can have cattle to sell they must either be grown or purchased—usually the latter. My recent experience along this line may offer some suggestions to the average farmer.

Unless good, growthy steers are purchased a large part of the farmer's feed will be wasted. Even after indifferent steers are finished for the market their sale is usually slow and the price received for them is often low—too low for much profit. What constitutes a good steer for the farmer to finish for the market? There is considerable literature published on this subject by the United States Department of Agriculture and the Experiment Stations, but the per cent. of farmers who use this knowledge seems very small. Without attempting to be tedious and lengthy, I may state that a profitable steer is one of a good color, usually without any indications of Jersey blood, broad across the loins, straight on the back, large around the chest, wide between the front legs, and with the flesh coming well down on the "hind quarters." Before one attempts to buy he should know definitely what he wants, and be familiar with the market prices of the grade of cattle he wants. All of the stockers should be of nice, even grade.

It is very important to know where to buy. Some cattle breeders have gone from this section into the great cattle markets of the North and West for their "stockers" this fall. What will be the result of these purchases will not be definitely known till these cattle are ready for the market and resold.

I have found this year a difference of a quarter of

a cent per pound in the selling price of the same grade of cattle owned by farmers only ten miles apart. This fact was largely due to a difference in the ability of farmers to sell their cattle. Hence those who want to buy should get prices on different herds of cattle that are for sale.

Many of the cattle that are fattened here in the Southwest are sold to men who make it a business to buy and ship to Northern markets. Hence it is very necessary for the farmer to keep posted on the cattle markets of the North and West to sell to best advantage. Without such knowledge, I have known farmers to lose five and ten dollars on each steer this fall. Stock raisers who made most money in this section during the past two years appear to be those who have sold very early in the season.

This makes it very important for the farmer to commence advertising his cattle several months before they are ready for sale, so that the different buyers will know of the cattle and come to look at them. Many lambs in this section have been sold now to be delivered next June and July. This gives the farmer a definite proposition to work on. If we could always have such definite propositions for cattle offered us so long in advance it would be much better for the farmer. But the cattle market is not near so certain as the sheep market, hence this very uncertainty makes it still more important that the farmer should be well posted.

When the buyer comes the cattle that are for sale (no others with them) should be driven up to some nice, quiet place, where ample time can be given to "sizing them up." The farmer should see cattle weighed often so that he may become a good judge of the weight of cattle before they go on the scales. Sometimes he has a good proposition offered him to sell or buy "on foot."

The cattle business is a business within itself. It requires close study and expert knowledge to make a success. It is an attractive business and one that usually pays well for intelligent care in management.

R. H. PRICE.

Montgomery Co., Va.

MULES.

Editor Southern Planter:

Would it not pay our farmers to raise mules? They are raised at less cost than horses, and unless a horse is pretty well bred, you cannot get much for him at three years old. Almost any common mare will bring a good mule, and at three years old you

can get from \$100 to \$200 for it. A mule colt will live and thrive on coarser food than a horse, and will stand more cold weather than the horse colt. There used to be a good many mules raised in Virginia, and they were good, tough, strong animals, more durable than the Western mules. I knew a farmer who kept five mares to work on his farm, and bred them every year, and after three years he had five mules to sell every year, for which he got from ninety to one hundred dollars, which was a great help. You cannot do as well with cattle at the same age, and they eat more in the same time. Try it, friends, and see if I am not right.

Henrico Co., Va.

F. GUY.

IMPORTED DORSETS.

As was announced in the June number of the SOUTHERN PLANTER, I went over to England to make an importation of Dorset sheep for certain members of the Continental Dorset Club, who were desirous of introducing new blood in their flocks and at the same time improving the type of their breeding stock. I will have something later to say to your readers about the wonderful flocks in Dorset, England, and their management, but I just wish to announce that I have landed with this importation. I brought sheep for Tranquility Farms, N. J.; J. B. Henderson, Pennsylvania; M. A. Thompson, Indiana; L. N. Vandeventer, Illinois; V. H. Phellis, Ohio; F. K. Crossman, Illinois; and for the Edgewood Stock Farm, West Virginia. This is a good representation of States. The sheep I brought have been pronounced the best stock sheep ever brought over. I designed especially to bring sheep of strong bone and constitution, good size and good fleece. Fifteen of these ewes were brought to the Edgewood Farm. These were all yearling ewes. Notwithstanding all the hardships of the trip and the long test of six weeks on dry food, these fifteen ewes average 160 pounds in weight. One of them weighed 176 pounds. This demonstrates the fact that I secured the size. This country does not grow such yearlings, for it is to be remembered that these sheep are all in stock condition. I think in flesh the ewes brought to Edgewood Farm will weigh 200 pounds. I sent to Mr. Crossman ewes that will weigh 225 pounds in strong flesh.

These sheep were in a sense the pick of the English flocks. Mr. W. R. Flower, in my judgment, has the best flock of Dorsets in the world. Through his kindness and his interest in the Dorset breed in America, I was permitted to select the very best of

his yearling flock. I did not purchase anything but the best. Most of the ewes brought over were in lamb to the best rams in Dorset, and will lamb in November.

It is needless to say that I came back to my home with a firmer faith in the breed. No sheep are more profitable in England than the Dorsets, none are more highly respected, none are handled in as large flocks, none have a more certain future.

H. B. ARBUCKLE.

Maxwelton, W. Va.

FEEDING HOGS THIS FALL.

The crop reports and market quotations indicate a high price for new corn. These things are already having an influence with feeders. Farmers are doubtful whether it will pay better to sell the corn or feed it. There is a large class of corn growers that does not grow a sufficient number of hogs to consume the crop and expect to buy the hogs to consume it if market conditions are favorable, otherwise sell it. This class of men will go slow this year about purchasing hogs.

The supply of hogs seems to be abundant, especially of the late spring farrowing, but there is no rush to buy them for the feed lots. There is a feeling on the part of some that it will pay better to sell their hogs as stockers and then market the corn. If this feeling becomes a ruling one they will doubtless sell their hogs at a sacrifice to the men that are a little more far-sighted than they are, have a little different judgment and in the case of hog feeding make money by doing differently from the majority.

It shows wisdom on the part of the farmer who grows his grain and hogs and uses the grain fattening them to continue "in the even tenor of his way," regardless of the changeableness of others who try to catch the high price of pork by making it when they think the price is sure to rule high, or by selling the corn when they think it will bring more money than it will if put into pork. The men who always try to catch the sure thing this way usually make a mistake in their calculations. But the farmer who grows his corn and hogs and fattens his hogs before selling them, and sells at the most profitable weight, aiming always to make the finished product as cheap as possible, will—in the main—secure a profit. Barring losses by cholera this man has as sure a profit as is secured along any line of stock growing.—*John M. Jameson, in National Stockman.*

In writing to advertisers, be kind enough to say you saw their ad. in THE PLANTER.

The Poultry Yard.

PREPARING FOR WINTER.

It is time now to make preparations for winter. Cull out all the old hens that are past their best and send them to market before they drop into the moult. These hens are great sources of loss if kept during the winter. After commencing to moult they will lay no more eggs, and as they will not get through the moult before the cold weather sets in, they rarely commence to lay before late in the spring, when the price of eggs begins to fall. All this time they are consumers and not producers. The year old hens, which proved themselves good layers last winter should be pushed through the moult as fast as possible by feeding them some oil meal in their food, so that they may begin to lay again before the winter fairly sets in. If once they get started before severe cold weather, and they are then kept warm and fed a proper ration of mixed hard and soft food, with plenty of green food, and some meat and green bones two or three times a week, they can usually be kept laying through the winter. Though they may not lay as well as pullets, yet when eggs are high three or four eggs per hen per week will make them pay for their keep during the winter, and in the early spring they will lay equally well with the pullets. Cull out all the young roosters except those intended to be kept for breeding purposes and send them to the market. They will sell for as much now as at any time, and the cost of keeping them will be saved. The young pullets should be pushed to maturity. The early hatched ones should commence to lay this month or in November. It is not desirable that they should commence too soon or they may stop on the commencement of winter and fail to begin again until spring. See to it that the houses are all cleaned out and thoroughly repaired, so that the hens may have a warm, clean house during the winter. Lay in supplies of clover hay and seed vetches and crimson clover, oats and rye for winter pasture.

KILLING LICE.

Editor Southern Planter:

I wish to say to the readers of the SOUTHERN PLANTER that it is positively unnecessary to use a poisonous ointment, as advised in the Halsted treatment, to destroy the large head louse found on young chicks.

We always have them on chicks hatched by hens,

and we never have a case of gapes. When the chicks are taken from the nest we anoint the head and throat with oil (cotton seed or olive), in which two or three drops of kerosene have been mixed. We then hold up the hen and spray her with kerosene with an atomizer. That ends all trouble for a while.

At intervals of two or three weeks, after the hen and chicks are quietly settled for the night, the atomizer is again brought into play, and the coop filled with a mist of kerosene. Our hen houses and roosts are sprayed with kerosene as needed, and the hens are given the same dose as the chickens, at frequent intervals. We have never seen any injurious effects yet from thus using kerosene.

If the Halsted theory is correct, why do not hens have the gapes? The louse's method of obtaining moisture and propagating its species would be the same. The head louse is the one most troublesome here. The mite we do not have, the body louse the dust bath holds in check.

G. E. WELLS.

Moore Co., N. C.

THE POULTRY CROP OF 1904.

Turkeys.—The crop of turkeys is estimated to be about 15 per cent. heavier than last year. Our reports in most instances claim large increases in the flocks of turkeys, but some points which raised a good many turkeys last year, report a material shrinkage this year. On the whole, however, we look for more turkeys to come to market during the winter. The season is unusually late, and where in other seasons a good many turkeys have been shipped in up to this time, so far this year but few turkeys have been received. Then, too, farmers are being blessed with good crops, and in no need for immediate money, can afford to allow their turkeys to run until fall.

Chickens.—The reports generally indicate a very material increase in the crop of chickens, and it is fair to state that the crop at least is about 20 per cent. larger than last year. The weather conditions were generally favorable. Farmers being in good condition financially, and receiving good prices for their eggs, have perhaps not marketed their stock as early, nor as freely as usual, and indications are that there is a large quantity to come forward.

Ducks.—Everything points to a large crop of ducks—such at least as the conclusions derived from the reports received. The indications are for an increase of about 10 per cent. over last year. Late prices have been more encouraging to farmers to raise ducks.

Geese.—The crop of geese is estimated to be about the same as last year, possibly 10 per cent. less. Of late the raising of geese has fallen off considerably, with perhaps the largest shrinkage in Illinois, where the enactment of a law prohibiting geese from running at large has made a very marked difference in the number of geese raised.

SPRAGUE COMMISSION CO.

Chicago, Ill.

SELECTION OF SHIPPING EGGS.

The careful grading of eggs prior to shipping is of great value. It pays to use clean cases and to select the eggs. Put all white eggs in a case by themselves, and the dark or brown shelled eggs by themselves. If you have not enough of these to divide into separate cases, it might be well for two or three to join in their shipments and divide the proceeds. In addition to this, keep for home use all the quite small, badly-shaped, badly-colored or rough shelled eggs. They will do quite as well for home consumption as the others. If those of poor quality are mixed in with the best, they run down or reduce the value of the whole shipment. If your eggs are sent to market in first-class shape as to quality and grading, you will have full value for them. If, however, they are a mixed lot, you will only get the price for that quality.

There are imported into Great Britain about thirty million dollars' worth of eggs each year. Of these about one million dollars' worth go from this country. Those that go from Russia retail for 18 to 20c. a dozen, while the better grades sold last year at 20 to 20c. Eggs sent to London from nearby farms sold for 30c. and better. In Ireland they buy and sell by the dozen and weigh the purchase, paying more for the heavier than for the light weight eggs. The practice of weighing eggs in the case is followed to a limited degree in the New York market. High quality eggs of the heavier weight are much sought after by the best trade in the city. If those who seek to gain the best prices for poultry and eggs would learn all these conditions, and endeavor to meet all these demands, they would benefit thereby.—*Country Gentleman.*

FEEDING TURKEYS FOR MARKET.

As soon as the weather begins to turn cold and insect food becomes scarce, an increased grain diet must be provided for the growing turkeys. A ration of wheat and corn is the best. Do not feed them too much at first, but gradually increase the supply until they are having all they will eat.

Those who succeed best in having the turkeys ready and in fine condition for the early market are those who allow them their freedom and feed them all they

will eat of wholesome fattening grain. Even when finishing them, it is not well to confine them. If they are fed each day at regular hours and at the same place, it will be an easy matter to have them come three times a day to this place to be fed. Their longing for food being fully supplied, less violent exercise will be taken, and the energy that would be expended in their wanderings in search of food will be directed in the more profitable channel of growing and developing for market. Turkeys that are poorly fed during the fall expend in seeking food that is no longer attainable considerable of the flesh they may have gained.

When feeding turkeys for market it must be remembered that they will sell for considerably more per pound than can be obtained for hogs or cattle, while the actual food cost per pound of turkey meat is but little if any more than for hogs or cattle. It will always pay well to give to growing turkeys all the grain they can eat.—*National Stockman.*

SEASON NOTES.

The cheapest winter eggs are always produced by matured pullers. If winter eggs are sought, every effort should be made to stock the laying houses with them.

The past season, however, has been one of the most unfavorable for raising young chickens. The markets show a scarcity of broilers, and that means that pullers are also scarce and slow maturing.

Since this is true, prices are likely to rule very high again this winter unless it should be mild enough to tempt the hens to do better than usual. Either way it is probable that it will pay to keep over the best of the old hens another year. If they have not been abused and burned out with stimulating egg "producers" hens will lay very well in their third and even fourth years.

The surplus cockerels should always be sold for broilers when they reach a weight of two pounds unless the price is very low. It seldom pays to keep them until full grown. There is no more profit in selling a five pound cockerel at eight cents a pound during the holidays than there is in selling him for 25 cents as soon as he reaches a weight of two or two and a half pounds.

At this season most flocks of young chickens contain a few half-grown, featherless specimens, which should be got rid of as soon as possible. They are runts, low in vitality and breeding, and should not be kept in the flock permanently. They can be quickly brought up to market size by liberal feeding with meat. It is probable that a lack of animal food has much to do with their condition—when it is not caused by overcrowding.—*Homer W. Jackson, in Stockman.*

The Horse.

NOTES.

President J. T. Anderson, Vice-President Harry C. Beattie, Secretary W. O. Warthen, and Manager C. W. Smith, of the Richmond Horse Show Association, are in high feather over the exceedingly bright prospect ahead for the fourth annual exhibition to be held here on the 18th, 19th, 20th, 21st, and 22d of October. The entry list closed on the first of the month, and a grander lot of horses than those entered in the different classes has yet to be paraded on the tan bark in all this Southern country of ours. The stables of harness horses owned by Mrs. John Gerken, Mrs. J. M. B. Grosvenor and prominent and widely known Northern exhibitors will be here, while the parade of hunters and jumpers will present an array simply dazzling to look upon. This latter seems fitting, too, seeing that Virginia is the great Southern stamping ground for the leapers and cross country performers; in that respect ranking with Canada as the producer of a greater number of these horses, which are now so popular, than any other section of America. The Horse Show is an educator whose influence has been of untold benefit, and the generous patronage accorded the Virginia Circuit this season shows that the fad is now in the height of popularity. Since its inception the Richmond Horse Show has been well received, and the forthcoming affair will furnish a carnival of sport and richness of scene rarely witnessed.

E. B. White, of the Selma Stock Farm, Leesburg, Va., who is a well known breeder of draught horses, has added to his already fine collection of Percherons by purchase at the World's Fair Horse Show, the prize winning fillies Zaza and Faurette, who are both four years old. Zaza defeated Castile in her class at the World's Fair. She is a granddaughter of the noted Brilliant, and has a foal at her side by imp. Casino. Faurette is a half sister to Zaza, and both were winners at the Kansas and Missouri State Fairs. Among other high class animals owned at Selma Farm are imp. Torpilleur and the mares Capuchine and Favorite.

Harry C. Beattie, Vice-President of the Richmond Horse Show Association, M. F. H. of the Deep Run Hunt Club, and patron of outdoor sports, is a busy man these fine autumn days at Bloomingdale Stock Farm, where he has a stable of hunters, jumpers and steeplechasers. Mr. Beattie schools the horses himself and prize winners of real class have been developed by his clever hand. He has now about a dozen head in his stable. Among the lot is Elevator and the big gray son of Eleve and Kitzv was never in better shape. Pablo, a chestnut gelding, 7, by Abd

El Kader, Jr., is developing into a fine heavy weight hunter, and he is well thought of. Carnation, a chestnut filly, 3, is by Rever, the sire of that good high jumper, Buck, a winner at the big shows and owned by Mrs. A. E. Deitrick, of New York. The thoroughbred division of the stable includes Deep Run, the bay gelding, by Kasson, dam Faustina, by Eolus and Southanna, 5, the chestnut mare by Blitzen, dam Gloriana, by Bend Or. The latter has speed and can run like a streak, and if she keeps right will probably be taken to the Washington meeting this fall.

Through an advertisement in the PLANTER, which brought quite a number of responses from various States, I have sold to Dr. E. P. Turner, Fergusson's Wharf, Va., the well bred trotting mare, Alice Ingram, 7, a bay, by Norfolk, dam Frosty May, dam of Halo, 2:14½, etc., by Joe Downing, second dam Lady Tennis, dam of Rinaldo, 2:27. With very little handling this mare has trotted trials close to 2:30. Both her first and second dams are great brood mares, and she is herself in foal to Kelly, 2:27, son of Electioneer and the famous producer Esther, hence the prospective produce will carry an inheritance of the richest blood to be found in the trotting register.

I am in receipt of a communication from D. C. Lester, of the Mountindale Stock Farm, Hatfield, Ark., stating that the brown colt Featherbone, by Whalebone, 7872, dam Alcyrene, 2:27½, by Alcyone, 2:27, owned by him, was a blue ribbon winner over a big field of two year old stallions at the county fair there recently. This is pleasing to me, as I bred the colt and sold him to Mr. Lester through an advertisement in the PLANTER. Featherbone now weighs 900 pounds, and is growing fast, while critics pronounce him very handsome and of splendid form. This colt will be kept entire by Mr. Lester, who will have his speed developed, and then use him as a stock horse at Mountindale Farm. BROAD ROCK.

Meyer & Jehne, of Farmville, Va., report the sale of their great gray Percheron stallion, Dom Pedro, No. 15558, recently brought in from the West to Messrs. Hicks & Hopkins, of Mathews and Gloucester counties, Va. Dom Pedro is a fine draft horse, and a fine representative of a prize winning family. He has besides a fine head and neck, a square body, with four corners, and, as says a veteran horseman, under each corner a leg to fit the body. Dom has a host of fine colts in the West, and we hope he will, under the wise management of his new owners, have the same on the seacoast. We are sure after some years we will find some stylish dappled gray draft mares in that neighborhood.

Miscellaneous.

SEED SELLING.

The Grain Dealers National Association send us the following resolutions passed at the annual meeting for publication:

Whereas seed houses do a large business in the sale of seed grains, and thereby may materially affect the general character of the crops of grain thus produced, either for better or worse; and

Whereas it is known that seed thus sold by seed houses does not always possess the merit of type and breeding sufficient to meet the expectations of the purchaser; and, in fact, often does not tend to raise the standard of the general crops produced. For example, it has been too common a practice for seedsmen to purchase ordinary corn from farmers' cribs and sell the same under special brands, when, in fact, it possessed no special merit whatever with respect to type and breeding, and the same is true in regard to other grains: therefore,

Resolved, That the Grain Dealers' National Association, now in convention assembled in Milwaukee, this 23d day of June, 1904, does hereby urgently request all firms engaged in the selling of seed grain to adopt a line of business policy that will result in giving more attention to the questions of type and breeding and adaptability, and thereby assist in improving the quality and yield of grains; also

Resolved, That the secretary be instructed to send a copy of this resolution to all the principal firms engaged in the business of selling seed grains in the grain producing States, and also to all the leading agricultural papers of the country.

At the same time we received this resolution we received the following letter from one of our subscribers:

Last fall I bought from a leading firm of seed dealers in the South two and one-half bushels of seed wheat, Currell's Prolific, with the intention of getting a start of good, clean, pure wheat. I paid considerably more than I had to pay for the seed wheat I bought at home, but did it willingly, as I wanted improved wheat. This summer I reaped three different kinds of wheat from the field in which this was sown—two kinds of smooth wheat and a bearded variety—the latter comprising fully 20 per cent. of the entire crop.

This spring, being anxious to get the best seed corn possible, I ordered from a leading seed house in the North one-half a bushel each of two varieties, paying at the rate of \$2 per bushel, plus freight. In the first place, I did not get the kind of seed I ordered, and was not notified of the substitution until after I had planted. In the second place, not over

50 per cent. of the grains germinated in the tests made, and I only succeeded in getting barely half a stand, although I almost sowed the corn. I wrote the house concerning the seed, but my letter was ignored.

Now, what is the farmer to do who desires to improve his crops, raise the standard of his seeds, and by so doing improve his general condition. He naturally hates to pay two or three prices for something that on paper is O. K., but in reality is not so good as he already has.

I bought some seed corn from Mr. J. M. Ray, of this county, and the best farmer in the township. This was selected from the crib, and gave by test a germinating percentage of about 97, and from this I secured an almost perfect stand, dropping one or two grains to the hill.

Question: Is it better to pay \$2 to the seedsman for corn that will not germinate over 50 per cent., or pay 75c. to your neighbor for corn that will almost, if not quite, double that record?

We may say that this letter is only one of many similar complaints which we have received and we think that such complaints fully warrant the action taken by the Grain Dealers' Association may call for even some more drastic resolution and action by the Grain and Seed Dealers' Association. Whilst we fully realize that it is impossible for seedsmen to guarantee the germination of seeds sold, as so much depends on the manner in which the soil is prepared and on the weather, yet we do think that there can be no excuse for selling seed of one variety which produces another. Seedsmen, of course, cannot themselves produce all the seed they sell themselves, but they are under heavy obligations to see that those who grow seed for them do so under such conditions as will warrant them in selling the seed as the variety called for. Inspection of the growing crops ought to be the rule before buying, as only when growing can the different varieties of many seeds be certainly established. When a man buys a certain variety of seed he is entitled to have it, and has ground of action if disappointed.

FARMERS' INSTITUTE AT ROANOKE, VA.

Under the auspices of the Agricultural and Industrial Department of the Norfolk and Western Railroad, with the financial assistance of the State Board of Agriculture, a successful Farmers' Institute was held in Roanoke, on the 30th of August and follow-

ing day. The Virginia Polytechnic Institute and Experiment Station furnished a number of speakers, foremost amongst these being Prof. A. M. Soule, the new Director of the Experiment Station, who, in Tennessee whilst Professor of Agriculture, made the Farmers' Institutes of that State a power for good in the State. He had the help of Professors Saunders, Davidson, Price, Watson and Ferneyhough. Mr. Ballard Huff, of Roanoke, presided over the meeting. There was a very fair attendance of farmers from the surrounding counties, and before the close of the meeting these men became so enthused at the prospect of good to be derived from a continuous series of Institutes to be held in different counties that they resolved that an organization should be created to carry on the work. Of this organization the Hon. J. Hoge Tyler, late Governor of the State, was made president, with Messrs. T. O. Sandy, of Burkeville, as first vice-president; Major J. T. Cowan, second vice-president, and Prof. Soule, secretary.

Prof. Soule spoke on the question of the Improvement of Seed Grain, and made a most interesting talk, securing the ear and attention of the audience and placing himself at once in the good graces of the farmers of that section, as we know he will do wherever he speaks in the State. Prof. Saunders spoke on Dairying, and made an exhibit of modern dairy appliances and explained their working. Prof. Davidson spoke on Commercial Fertilizers, and Prof. Ferneyhough on the Diseases of Farm Stock. Later in the day Prof. Soule again spoke on the subject of Agricultural Education, illustrating his remarks by stereopticon views thrown on a large screen. Prof. Price spoke on Fruit Diseases. All the addresses received marked attention, and cannot fail to be productive of good results. The Agricultural and Industrial Department of the railroad is deserving of the thanks of the farmers for the effort it is making to arouse attention to the importance of Agricultural Education in the State and the development of the lands and their occupation by new comers from the North and West and abroad.

THE MOVEMENT FROM COUNTRY TO CITY.

Editor Southern Planter:

That the cities of the country are increasing faster in population than the rural districts is a fact well known to all. Another fact is apparent to those who are careful observers of the trend of things in the South.

It is not only the young man of the South, who is

crowding in to the cities, but it is also the laborer. The colored man is steadily leaving the farm, and seeking employment in the cities, on the railways and in the numerous industrial enterprises springing up on all sides.

The labor question is becoming a serious one for the South to carefully, thoughtfully and seriously consider. The young men, from the rural districts are steadily moving cityward. The middle-aged men are also going the same way in a steady stream, large enough to have an appreciable effect disastrously at both ends the line. It is disastrous to the city, because it disarranges the law of supply and demand, and lowers wages, and still a large percentage of workers are out of employment.

It disarranges the labor question in the country, and makes the already inadequate supply of laborers still smaller.

The stream of colored laborers also flows from the country to the business centres, because it is very natural that the darkey should like to work in squads or gangs, on the railways, or in any of the industrial plants employing colored laborers.

This movement from country to city, is already keenly felt by many sections of the South. It is hard to find and apply a remedy for this condition of things. Immigration seems to be about the only way to readjust matters and save the State from going backward in her agricultural development.

The larger estates, where 20 to 100 laborers are required, may be cut up into smaller holdings and sold to thrifty people from other portions of the United States, who, in addition to the fact that they are good workers themselves, will also keep more or less stock of all kinds on the farms, thus insuring more permanent pastures and meadows and less acres in hand cultivated crops.

The South is emphatically a section of country away behind in the use of improved machinery. The cheap hand labor, heretofore plentiful, and seemingly almost inexhaustible, in the light of the wonderful industrial development of the South, is found to be insufficient to take care of the farming interests, and at the same time furnish the labor required for all the many industries of the New South.

Thousands of colored hands are also yearly migrating to all parts of the East, West and North. The South is up against a "condition" surely in regard to labor.

We hope very soon to see the tide turning from city to country, for surely the country offers far more to the poor man than the city does.

It is possible that some may think that the wages paid on the Southern farms are not high enough to hold the colored laborers steady on the farm.

In reply to that suggestion, I beg to say: The colored man is satisfied to work for small wages, pro-

vided he can manage to get something to eat, drink and wear for the time-being. He is a very improvident laborer, very much like the cricket, and if his wages be doubled, he would be more than likely to work half the time. If the wages will support him, if he works half the time, "why should he work the other half?"

His idea is to have a good time. He takes no anxious thought for the morrow. He has no intention of preparing for winter or for the "rainy day." Therefore increased wages will not keep the colored laborers on the farms.

He likes to work in "blocks of five" or twenty-five or more rather than to hoe corn or drive the mule in the cornfields by himself. The greatest need of the South to-day, therefore, is immigration. Thrifty, intelligent, hard-working farmers, who are experts in handling improved farm machinery, and who know all about raising farm stock, and all about growing the regular farm crops, are needed in the South, to take the places and the farms of those who make the mistake of their lives by leaving the farm for the city.

Smaller acreages of hand cultivated crops should be grown, and more stock and stock crops kept and raised upon the farm. Use more horse power, better implements and better methods. Less acres in cotton, peanuts, tobacco and vegetables and more acres in pasture, meadow and cornfield. More grass, more grain, more green crops, both to feed and to plow under.

How utterly foolish it is for the poor man to leave his farm in the country, where by good management he can make a living and enjoy more liberty, take more comfort, have better health, and be far more independent, than he can possibly be in the noisy, wicked city. A country home is much nearer heaven than is the city home. It gives much more health, much more happiness, much more liberty, and is really much more to be desired than the homes offered by our modern Sodoms.

Stick to the country home.

A. JEFFERS.

Norfolk, Va.

AN IMMIGRANT'S ADVICE TO VIRGINIA FARMERS.

Editor Southern Planter:

Permit me a little space on the topic of farming as a business in Virginia. Your correspondent, "N," on this topic reminds me of the story of a dog going across a creek on a plank with a piece of meat in his mouth, seeing his shadow in the clear water and jumping after it, as he thought, it was another dog below him, who had a piece of meat, of which he

would like to get a bite, but failed and lost his own piece.

Now, can I induce any Western or Northern farmer to come to Virginia and start farming and spend \$25 to \$50 dollars or more per acre, besides two or three years' time or more to make a farm, where there is only a place for one? I hardly think so, because for that amount he can buy out there, where he can make money from the very beginning and have a nice home in one of the best sections of the United States. I think the way "N" writes he must have Uncle Sam's mint to fall back on. Something is wrong, but what? The United States Department of Agriculture says our soil contains enough phosphate and potash, but it lacks one thing, humus. Thorough tillage and manure will make the minerals available for the plants. Manure makes life in the ground, encourages microbes. Manure is what all Virginia needs, and plenty of it. Manure is the foundation for sound and successful farming. There is an old saying in my native country of Switzerland: "The farmer who cannot lick the manure wagon with his tongue, after hauling manure on it, is no farmer!" It sounds very tough, but a farmer who is not proud of his manure pile is no farmer. What I see when I look around me is that the farmer is getting poorer every year, and the fertilizer manufacturer getting richer. Virginia is a grand old State, but it lacks 50,000 manure farmers like we have in Switzerland and Germany. I would make right here one suggestion. On the first page of your valuable paper print:

"Beware of fertilizer; keep stock; make manure, manure, manure!"

Fertilizer is what kills the State, and every farmer who wants to prosper should keep his hands away from it. Of course, the tobacco growers and truckers need a little more help of some kind, but if they manage right, they need very little fertilizer. "N" says he tried to keep stock, but advises not to waste time with it. I think if "N" was a better manager he could make money on his farm and improve it at the same time without spending \$25 to \$50 or more an acre. Supposing he has 100 acres of land. He could easily pasture 10 to 15 cows for eight months of the year, keep them in at night to make manure. From the milk of these cows he could make cheese or butter, and raise hogs on the whey or skimmed milk. I am sure he would have at least \$500 in his pocket at the year's end and ten acres of good land, well manured, that would bring him better crops without a big fertilizer bill. This I

call business farming. That we can make cheese in this State on old broom sedge fields I can prove, as I am doing it right on my place. I commenced to make Brick cheese this spring. I could not make it any better in Wisconsin.

Now, Mr. Editor, I want "N" and all your esteemed readers to turn away from this fertilizer farming. It is of no account, as the whole State of Virginia is a proof. Raise and keep more stock, make manure, haul it out on your land. You will soon get better crops, and consequently more money. Do not forget the dairy business, and the whole State will march on to the highest prosperity and will lead all other States in the Union, as it used to do one hundred years ago. Just think of our climate, water and nearness to the best markets. Is it not worth trying? Keep stock, make manure and go at the same time into the dairy business.

AUGUST BUEGL.

Lunenburg Co., Va.

the building from basement to roof is adjusted and planned as well as modern ideals in agricultural education can devise.

C. W. BURKETT,

Professor of Agriculture.

Agricultural College, Raleigh, N. C.

NORTH CAROLINA COLLEGE OF AGRICULTURE BUILDING.

This building is to be 208 feet long, 74 feet wide, and three stories in height. The building is to be of gray pressed brick and covered with tile roofing. I think I can say unhesitatingly that the building will be one of the most complete agricultural buildings in the country. It will far surpass anything in the South, and it has been planned to meet the true wants of agricultural education.

One-half of the first floor, which is combined with the basement, will be devoted to dairying, which will give 4,800 square feet of floor space, which will be devoted to butter making, cheese making and other phases of dairying. The other half of the floor will be devoted to live stock judging and farm butchering rooms, for it is expected to teach to the students stock judging, slaughtering of farm animals, cutting up of meats and curing the same, the making of sausage, and the handling of all meat products.

On the middle floor will be the class rooms and offices of the department, and a laboratory for the study of farm machinery, where machines will be taken down and set up and the student given thorough instruction in the handling of farm machinery. On the same floor will also be a large laboratory for the study of soils in all their phases, also the study of agronomy and plant production.

The third floor will be devoted to botany, physiology, zoology, bacteriology, and the veterinary sciences. Each room and laboratory has been especially planned for its particular use, and I think



ALFALFA IN INDIANA.

Editor Southern Planter:

Do your readers raise alfalfa and good stock? If not, why not? Alfalfa will grow if farmers will sow it and treat it rightly in almost any part of the United States. It grows in Canada even. Land is getting so high in our country that we need to get more out of it than most farmers do when they raise one crop of corn per year, and have to constantly cultivate it to keep the weeds from taking it. When farmers find out the fact that alfalfa is "corn and hay" both they will certainly lay aside their prejudice and raise it; cutting four crops of nice hay per year and thus keep the weeds from seeding. Some farmers here say, that four hay cuttings are too many; that they "do not like to cut hay all the time." It seems to me it is about as pleasant, and fully as profitable, to cut four crops of hay as it is to cut weeds, like the most of them do, after a poor harvest of wheat. As to the good stock proposition, it seems strange that so many good business farmers continue to raise scrubs when the good cattle will pay a profit instead of bringing loss, as scrubs almost invariably do. Raise alfalfa, blue grass and pure blood, or high grade cattle and hogs on the same land, at the same time. You can do it. Turn under a stiff blue grass sod, sow alfalfa seed, and you will soon have alfalfa and blue grass both on the same ground to keep your good cattle and hogs. Our fourth crop of alfalfa hay this year will soon be ready to cut. I have 58 acres in alfalfa, and part of it is eight years old and getting better each year. It has made at least five tons per acre at three cuttings this year, and will make another ton at fourth cutting.

If it were not for alfalfa I could not keep 50 Hereford cattle and as many hogs, besides four horses and some Shetland ponies on my 100 acres of land. I am confident that 100 acres of alfalfa and blue grass, mixed will support 100 head of full blood cattle and as many hogs, if rightly managed. Eight years ago farmers in my neighborhood said alfalfa will do no good in this country. I tried it on one and one-half acres. For fear it would fail, I sowed little red clover with the alfalfa seed. I did not inoculate the land. (Did not know how.) The alfalfa came up well, but inside of a year much of it died. At the end of second year it had a good color, but was thin. The little red clover was all gone. I disked the alfalfa thoroughly, both ways, and resowed it. The old alfalfa plants grew so much that they smothered out the young plants, and I lost my alfalfa seed. I found out from this that disking is a good thing for alfalfa, and I now disk early in spring, and after

each cutting, except the fourth. I have sowed alfalfa from middle of April until the 24th of July, and have never had a failure. Of late years I have been inoculating my new fields with soil from the eight year old patch, and I have a much better stand than when I did not inoculate. Of course, alfalfa will inoculate itself in two or three years, but much of it will die before it does this. One hundred to one hundred and fifty pounds of soil is sufficient to inoculate an acre, and this costs only 75c. per 100 pounds f. o. b. So it does not pay to wait for alfalfa to inoculate itself, and thus have a thin stand, but many well-to-do farmers sow alfalfa without inoculating it, and then say it won't grow in this country. Many others say they would like to have alfalfa, but they don't want to buy dirt to inoculate it with, etc. Many are sowing it and buying "dirt" to inoculate it. To-day we filled an order for three and one-half tons of soil, to be shipped to one man at Waveland, Ind. This man bought eleven bushels of alfalfa seed of me on August 20th, to sow 45 acres of land in Indiana, where many say alfalfa won't do, and he says if he lives, he will sow 150 acres more next year.

This man says he has fed thousands of tons of alfalfa in the West. That farmers are standing in their own light by not raising it in Indiana. Alfalfa hay is of much better quality here than in the West. It is not so coarse here. He says he will sow blue grass with his alfalfa, and he will graze cattle and hogs through the summer and fall, and sell them at the beginning of winter; thus he will not have to feed grain and hay to keep his cattle warm in winter. I would like to follow his example, were I not in the Recorded Hereford business, and I think it too much bother to stock up with breeding stock each spring. I mean to sell my calves each fall, however, and only keep the cows through winter. The manure they make, in a "covered barn-yard," helps to raise more alfalfa and blue grass, and the Herefords will keep fat enough for beef on this kind of hay, even in winter in the shed on the south side of barn.

I had an order from Louisiana to-day for alfalfa seed, and an inquiry from Iowa, while I have sent soil in ten lots to Michigan, New York, and to Maryland. This shows that farmers are awaking to the value of alfalfa. I wish to say that alfalfa will grow on any good corn soil, well drained. It will grow on almost any soil, if you will drain it and manure lightly. Sow 15 to 20 pounds (the latter is better) of nice seed per acre on finely prepared soil (broadcast) and cover one and one-half to two inches deep with a harrow or light cultivator.

If you sow in spring, sow about one bushel of oats

or spring barley per acre, and mow early for hay. Don't let grain form, and thus rob the alfalfa of moisture. If you sow later, sow in the corn, just before the last plowing. If weather is dry after sowing or after plants are up, toll to break the crust and to keep the moisture. Even roll with short roller between the corn rows. It will pay. Clip close to ground every week to keep weeds down, after the hay is taken off, until the later part of season, then stop clipping and cut a fair crop of hay, say in September or October, or pasture with light stock.

Try alfalfa in a small way anyhow. Its roots will go through almost anything except solid stone. They have been known to penetrate the ground 129 feet in Nevada.

Prof. Latta, of the Indiana Experiment Station, Lafayette, Ind., says that alfalfa is 50 per cent. richer than little red clover in protein or muscle-forming elements. The Texas Experiment Station is credited with the statement that five tons of alfalfa hay is equal to nineteen tons of timothy hay in feeding value.

Jos. E. Wing, of Ohio, says that the leaves of good alfalfa hay are worth as much as wheat bran, pound for pound. If these authorities are right, and if alfalfa will do as well for others as it has done for me, for the last eight years, it is worthy of a fair trial, at least, and it is claimed alfalfa will last from 15 years to 100 years from one seeding. In the Southern States, no doubt, it will make from five to seven cuttings. Alfalfa should be cut as soon as it begins to bloom; then it is not coarse, and stock will eat the stems. It should be raked as soon as wilted and left in windrow to cure or in small shocks. Thus the leaves do not get sunburnt and do not crumble. The leaves are the best part of the hay. Alfalfa turns water well in shock or stack.

Boone Co., Ind.

J. N. SHIRLEY.

WHY VIRGINIA LANDS ARE SO LOW.

Editor Southern Planter:

In reply to the question of your correspondent, C. A. L., page 572, September PLANTER, "Why is land so cheap," etc., I beg to offer my opinion.

First. There is an excess of acreage in proportion to the number of farmers actually engaged in that vocation, meaning thereby that they own more land than they can cultivate or properly care for.

Second. That a great portion of the State was composed of large estates of say 1,000 acres each and upwards prior to the Civil War.

Third. That the tenant system adopted since the Civil War has a tendency to prevent subdivision of

these estates. That the tenant system, as a whole, is against the agricultural development and improvement of these lands. That the system under which they are farmed is injurious to the land, consisting largely in continuous cropping, shallow plowing and poor cultivation.

Fourth. That by reason of the foregoing, there are larger offerings of land on the market than there are buyers for, and as in the marketing of any product, a glut causes lower prices and shrinkage in value. When these conditions shall have changed so that the demand for Virginia lands will exceed the offerings, you will no doubt see there will be a great advance in land values. We have the soil, climate, shipping facilities and markets. What is needed are smaller areas in our farms, rotation of crops, deep plowing, thorough cultivation, more stock, application of barn-yard manure, and less commercial fertilizer. Virginia is blessed with several different varieties of soil, each of which are specially adapted to certain kinds of crops. It is right here where the newcomer usually makes his great mistake. If he wants to make grain crops and stock growing a specialty, instead of selecting red loam or chocolate soils, with a strong red clay subsoil, he casts his fortune on some light gray land tract, which is best fitted for trucking crops, berries, etc. He seems to think it makes but little difference what the soil is, so long as it is in Virginia.

Until the incoming settler can be intelligently advised as to his selection, and the soils and locations best adapted for his special purpose (and he should have a defined purpose in view), just so surely will many of them be disappointed, whereas the proper location of such a settler, would have resulted in his success and contentment. I predict that only a few years hence the conditions will have so changed that the lands quoted to-day at \$10 per acre will be selling at \$20 to \$25, and that there is no more safe and profitable investment than the purchase of carefully selected Virginia lands at present prices, and their subdivision into farms of one hundred to one hundred and fifty acres, with a system of intelligent and progressive agriculture established, and if on every one of these farms a silo could be built and the stock be carried to consume the products, how quickly would Virginia farmers thrive and succeed. Nowhere else, so far as I remember, will soils show more quickly improvement or produce more abundantly from the application of barn-yard manures than our own Virginia lands. "WHITBY" STOCK FARM.

Mecklenburg Co., Va.

A STATE ORGANIZATION OF FARMERS STARTED.

Editor Southern Planter:

It will be remembered by readers of the *PLANTER* that I strongly advocated a State Farmers' organization in the August number. Now I am pleased to state that just such an organization has been started. Some time I expect to write up the good things the *PLANTER* has advocated for the farmers which are accomplished.

While a good Farmers' Institute was being held in Roanoke City last September a strong State organization of farmers was advocated by Prof. A. M. Soule and others. After some discussion it was decided to start such an organization, and officers were elected. Hon. J. Hogo Tyler, of Radford, was elected president; vice-president, Mr. T. O. Sandy, Burkeville; second vice-president, Major John T. Cowan, Cowan's Mills; secretary, Prof. A. M. Soule, Blacksburg; assistant secretary, Mr. J. M. Williams, Roanoke.

The officers are good men, but the name might be improved upon. We want to do something more than *institute* things. We want to see some things carried out that have been instituted. Let this organization grow and develop in influence all over the State. May it grow so strong that no politician will presume to cross its pathway. R. H. PRICE.

Montgomery Co., Va.

CURE OF FISTULA IN HORSE.

Editor Southern Planter:

The following remedy cured two bad cases of fistula, one of which was of nearly two years' standing: Wash twice a day with warm water and a good soap (Castile preferred), using a syringe, if necessary, then apply a lotion made of oil of cedar, three ounces, chloroform, one ounce; using syringe if the infected parts cannot be reached otherwise.

Bedford Co., Va.

H. H.

MATERNAL LOVE IN CATTLE.

Editor Southern Planter:

About 1857 my father owned a large barren cow that whipped some of the oxen on the farm, and every cow except her mother. Her mother was a small, weak, timid old cow and afraid of nearly every cow in the lot. When any of them would fight her she would often run to her large, strong daughter and fight her; yet the daughter never resented it. Since that time I have noticed to see if a cow would whip her mother, but have never known one to do so. A calf taken from its mother and raised by hand perhaps would fight its mother, but

she will never do so if raised in the natural way. I have seen cows after being separated a long time from their calves seem to fail to recognize them; but I have never seen a calf fail to recognize its mother after being raised by her.

J. R. REDD.

King William Co., Va.

CONCRETE OR CEMENT BARN.

A. F. Durand, Illinois, writes:

"Will you please give me some information in regard to building a cement or concrete barn? Can you give any estimate of the cost of a barn 40x40, with 26 inch sides? Sand will cost \$1.25 per load of one and one-quarter cubic yards; stone will cost \$1. How thick should the walls and ends be and how can they be strengthened? Do they use gas pipe in the concrete to strengthen it? How can the plank be held together until the concrete sets? Can part of it be built at a time or is it necessary to have planks enough to reach the eaves? Should there be an arch built over large doors?"

A 12 inch wall about a barn 40x40 would contain at a height of 26 feet 154 yards of concrete. A yard of sand costing \$1 and cement probably \$2.50, the concrete would cost about \$4 put in the wall. This is estimating that at the bottom of the wall a barrel of cement was put with each yard of sand and gravel, slightly less higher up. The walls then would cost about \$600, not figuring anything for cost of lumber in building forms. However, floor joists can be used to make forms of, and they may be simply of planks laid opposite and bolted together, the bolts wrapped with paper so they can be drawn and the wall laid up as fast as the mud can be mixed, the lower forms being taken off and raised to the top as needed. As a general thing after concrete sets for 24 to 48 hours it is safe to take off the forms, though one must treat it with care, as it is rotten stuff for some days.

A wall of 12 inch thickness at bottom, tapering to 8 inches at top, will be heavy enough. Strength may be given it by laying in it No. 4 wires, tying it well at the corners. There need be no arches at the doors and windows. Where openings come use plenty of wire and the concrete will stand up all right. The building will be tied together at the mow floor, the joists will knit it all together and I suggest that while openings be left for them all at the time of erection, they need not all be actually put in place, but one should be put in at every 6 or 8 feet distance, and the ends firmly tied to the wall by means of transverse bolts or spikes or dovetailed notches that the concrete will hold. Once built the barn will endure for a long time.—Joseph E. Wing, in *Breeders Gazette*.

THE

Southern Planter

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THE SOUTHERN PLANTER PUBLISHING CO'Y.

RICHMOND, VA.

ISSUED ON 1ST OF EACH MONTH.

J. F. JACKSON,

Editor and General Manager.

B. MORGAN SHEPHERD,
Business Manager.

TERMS FOR ADVERTISING.

Rate card furnished on application.

TERMS FOR SUBSCRIPTION.

THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at 50c. per annum; all foreign countries and the city of Richmond, 75c.

WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known, Particulars of Experiments tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

NO ANONYMOUS communications or enquiries will receive attention.

REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

THE DATE ON YOUR LABEL shows to what time your subscription is paid.

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ALWAYS GIVE THE NAME of the Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

Address THE SOUTHERN PLANTER,
RICHMOND, VA.

Entered at the Post-office, Richmond, Va., as second-class matter.

PUBLISHER'S NOTES.

To Advertisers.

We wish to impress upon our advertisers the necessity of sending in all advertisements and matter pertaining to advertising, by the 25th of each month. If it can be sent before that date, so much the better for both of us. There is not a month that passes that we do not leave out somebody's ad. because of it reaching us too late.

A Correction.

In our September issue we got the electrotypes in the advertisement and illustrated notice of the Pittsburg Tubular Steel Whiffletree Co. mixed. The one which appeared in the ad. should have been in the notice, and vice versa. We have straightened out the matter in this issue, and if you will refer to the ad. on another page, you will see that the plow double-tree harmonizes with the reading matter. The goods made by the above firm are immensely popular, and farmers everywhere are using them. Send for descriptive circulars.

FONTAINE SAFETY TUGS.

We acknowledge receipt of a pair of Fontaine Safety Tugs, which were sent us by The Fontaine Co., Christie, Va. This useful device will be advertised regularly in our columns. The advantages in using these tugs are many. They prevent the harness saddle from hurting the horse's back. With an ordinary tug the girth has to be drawn tight to prevent wobbling of the shafts. When a horse is travelling, the size of his body often changes somewhat, especially when drinking, breathing hard or going down hill. The girth then becomes very tight, and chances are that it will break the very next time he strikes a hill. The Fontaine Safety Tug causes the girth to act as if it were elastic—that is, they give and take with each expansion and contraction of the body, though always keeping the shafts rigid.

Look up the ad. and send to the company for pamphlet, giving full details, etc.

If you want Clean Fields
and Clean Crops, Sow

Wood's Trade Mark

Clover and Grass Seeds.

They are the best and cleanest qualities that it is possible to procure—free from plantain, daisy, wild carrot and other objectionable weed seeds often found in ordinary clover and grass seeds.

Wood's Seed Book for 1904

gives the most complete information and up-to-date experience about all Grasses and Clovers. Mailed free on request. Write for Seed Book, and special Price List of Grass and Clover Seeds.

T. W. Wood & Sons, Seedsmen.

RICHMOND, - VIRGINIA.

SAN JOSE SCALE

and other INSECTS killed by

GOOD'S

Caustic Potash Whale-Oil Soap No. 3

Endorsed by U. S. Dept. of Agri. and State Experiment Stations. This soap is a Fertilizer as well as an insecticide. 50lb. 1/2 doz. 10lb. 1/2 doz. \$4.50. 1/2 barrel, 20lb. 1/2 doz. per lb. barrel, 42lb. 1/2 doz. Send for Booklet, JAMES GARDNER, Original Maker, 959-41 N. Front Street, Philadelphia, Pa.

FRAZER

Axle Grease

Best in
the world.

Its wearing qualities are unsurpassed, actually outlasting 3 boxes any other brand. Not affected by heat. Get the Genuine.

FOR SALE BY ALL DEALERS.

Virginia Polytechnic Institute,
(State Agricultural and Mechanical College)
AT BLACKSBURG, VA.
A SOUTHERN INSTITUTE OF TECHNOLOGY.

54 instructors. Thoroughly equipped Shops, Laboratories, and Infirmary. Farm of 400 acres. Steam heating and electric lights in dormitories. Degree courses in Agriculture, Horticulture, Civil, Mechanical and Electrical Engineering, Applied Chemistry and General Science. Shorter courses in Practical Agriculture and Practical Mechanics. Total cost of session of nine months, including tuition, and other fees, Board, Washing, Text-Books, Uniform, Medical Attendance, etc., \$222. Cost to State students \$132. Session began September 21, 1904. For catalogue and other information, apply to J. M. McBRIDE, Ph. D., LL. D., President.

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BANK OF RICHMOND,

Main and Tenth Streets.

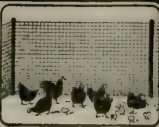
CAPITAL AND PROFITS, - - - \$1,134,938.14.

Special attention paid to out-of-town accounts. Correspondence invited.

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As It Looks When Erected

Strongest and Best By Every Test.

Has been fully tested by leading poultrymen. All heights (12 in. to 7 ft.). Has fine mesh for small chicks. Over 1,000 rolls of this fence used on Lakewood Poultry Farm, New Jersey. You will be pleased with it.

Our Low Price will Surprise You.

We will ship from mills in Connecticut, Illinois and California, and guarantee prompt delivery. Catalogue of Farm and Poultry Fencing sent free.

Write Us What You Want.
Do It To-Day.

CASE BROTHERS,
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WIRE FENCE

Heavy lateral wires, heavy hard steel stays, coiled spring wire. Sure Grip Lock. In strength, appearance and durability, the Hard Steel cannot be excelled. Write for catalogue and prices.

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Genuine Spiral Spring Wire FENCES AND GATES

If your dealer does not have our goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency.

INTERNATIONAL FENCE AND F. CO.
Columbus, Ohio.



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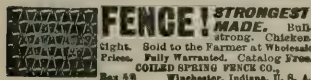
PAGE FENCE CHARACTERISTICS

Read them on pages 18 and 19 of our free catalog.
Page Woven Wire Fence Co. Box 57 Adrian, Mich.



DOW FARM FENCE
PRICE AND QUALITY
WILL PLEASE YOU—
WRITE US NOW.

DOW WIRE WORKS—LOUISVILLE, KY.



FUMA FENCE! STRONGEST
MADE. Built strong. Chickens.
Sold to the Farmer at Wholesale
Prices. Fully Warranted. Catalogue Free.
COILED SPRING FENCE CO.
Box 46 Winchester, Indiana, U. S. A.

WIRE FENCE at Wholesale. A 4 1/2 inch stock fence 29¢ per rod.
Send for price list and FREE Catalogue of Wire Fence and full line of Fence Supplies.
W. H. MASON & CO., Box 80 Leesburg, Ohio.

"FUMA" kills Prairie Dogs, Woodchucks, Gophers, and Grain Insects. "The wheels of the gods grind slow but exceedingly

small." So the weevil, but you can stop their grind! "Fuma Carbon Bisulphide" are doing.
EDWARD R. TAYLOR, Penn Yan, N. Y.

WITH THE ADVERTISERS.

The International Power & Vehicle Co. is offering its engines on another page.

Mr. Jno. F. Lewis, of Lynwood Stock Farm, is offering some splendid bargains in Percherons and Shorthorns. Look up his ad.

There are a number of valuable farm lands being advertised in this number. W. B. Mercier offers his splendid Mississippi ranch; James Holmes offers Florida lands, as well as a nice Virginia place.

Col. S. Brown Allen, of Hill Top Stock Farm, is closing out his herd of Berkshires.

The Elkton Stock Farm offers a splendid lot of Hereford cattle and Berkshire hogs.

Breeders of White Leghorns will be interested in the ad. of the Maxwellton Poultry Yards.

Fertilizer chemicals can be had of the Smith-Davis Co., Wilmington, N. C. Duntreath Stock Farm has an extraordinary offering of Berkshires, which includes its splendid herd boar, Highclere Lustre Carlisle.

A well bred and well gaited saddle horse is offered by Mr. Chas. B. Cooke. The Stromberg-Carlson Telephone Manufacturing Co. has an interesting announcement on another page.

The O. S. Kelly Co. is advertising its well known feed grinders again this season.

The Folding Sawing Machine Co. starts the season's advertising with a card on another column.

The W. Smith Grubber Co. is advertising a splendid stump puller in this issue.

Kendall's Spavin Cure, with which numerous of our readers are familiar, is advertised by its makers in another column.

Chandlee & Chandlee, patent solicitors, resume their advertising in this issue.

The Castalia, Herefords are attractively offered in half page ad. elsewhere in this issue.

Some finely bred Jersey calves can be had of Mr. David Roberts, Moorestown, N. J.

Note this month's offering of Blitmore Farms.

A number of seasonable implements are offered by the Norfolk Farm Supply Co. Look up the ad.

Case Bros. have an attractive card on another page offering Union Poultry Fence.

MAPLEMONT'S MONTHLY MENTIONINGS.

This is the title of a monthly paper issued by the Maplemont Stock Farm, Rutland, Vt., in the interest of dogs and Scotch Collies in particular. This firm has advertised with us for a number of years and many of our readers are doubtless familiar with the class of stock they breed. It will probably be interesting to you to see a copy of their pamphlet.



Satisfy Yourself

by trial at home (nothing to pay if it fails) that you can grind ear and shelled corn and all grains and mixed feeds easier, faster and better with the

New Holland Feed Mills

than any other. Trial is absolutely free. Order with that understanding. 4 sizes and 3 styles, including small hand power. Saw Your wood with New Holland Wood Saws and save labor. Three sizes.

Ask for free circulars and prices.

New Holland Mch. Co., Box 153, New Holland, Pa.

FOR ALL MIXED FEEDS

Unhusked corn, husked ears, shelled corn and all grains there is no mill made that for speed, easy running and complete grinding equals the



KELLY DUPLEX Grinding Mills
New double cutters, force feed, never choke, grind fine or coarse. Four sizes, any power. Investigate to-day.
THE O. S. KELLY CO., 158 N. Lime St., Springfield, Ohio

Cut! Crush! Shred!

Prepare your fodder so stock will get all the nourishment. No waste if you use



Heebner's Feed Cutters.
Prepare corn so stock eat it all and thrive on it. With shredder attachment (\$10 extra), you have fine machine in one for ensilage and all feed cutting. We make Tread and Lever Powers, Crushers, Wood Saws, etc. Catalogue mailed free.
Heebner & Sons, 25 Broad St., Lansdale, Pa.

Make Your Own Fertilizer

at Small Cost with
Wilson's Phosphate Mills
From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultryman. Also Flour Mills, Grist and Shell Mills. Send for catalogue. W. L. & O. Hesse, Sole Mfrs., Easton, Pa.

THE HESSLER \$1 MAIL BOX.



Best, Cheapest and Most Durable Mail Box on the Market. Full Government size and approved by Postmaster General. Price of boxes, \$1.00. Brass locks, with chain, 35 cents. We make a discount on dozen lots. Circulars Free. Orders shipped promptly. Beautiful Souvenir Button mailed free on application.

H. E. Hessler Co., Factory A, Syracuse, N. Y.

Mention THE SOUTHERN PLANTER in writing.

Clark's Tools for Large Hay Crops

Clark's Rev. Bush Plow and Harrow cuts a track 5 ft. wide, 1 ft. deep. Connects the subsoil water. It is an excellent machine for covering in sugar cane. Strength guaranteed. Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.

Clark's Double Action Cutaway Harrow moves 15,000 tons of dirt in a day. Send for Circulars.



Clark's Rev. Sulky Disc Plow

Made single or double. One or two furrows deep to ten inches deep; 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, black hardhack, sunflower, milk weed, morning glory, Russian thistle or any other old plant that grows, or money refunded. Now is the time to commence work for next year's seedling to grass.



THE CUTAWAY HARROW CO.,

Higginum, Ct., U. S. A.

SPANGLER DRILL

Low down GRAIN AND FERTILIZER

Superior to all other drills. Even distribution of heavy, damp or dry fertilizers. Increases crop profits. High wheels, broad tires, low steel frame. Fully warranted. Write for free catalogue.

SPANGLER MFG. CO., 804 Queen Street, York, Pa.

9 CORDS IN 10 HOURS

BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees. Folds like a pocket knife. Saws any kind of timber on any kind of ground. One man can saw more timber with it than 2 men in any other way, and do it with less trouble. FREE Illustrated catalogue, showing latest IMPROVEMENTS and testimonials from thousands. First order secure agency. Address

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SAW MILLS

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MAGAZINES.

The frontispiece of the October Century is a drawing in color, called "The Duet," by Anna Whelan Betts, whose color work in recent numbers of The Century, representing life of fifty or sixty years ago, are well known.

The war in the East is touched upon in two articles, an illuminating anecdotal paper on Admiral Togo by one of his countrymen, Adachi Kinnosuke; the other an illustrated paper on "The Cossacks," by David M. Macgowan, who wrote the paper on "A Russian Lourdes" in the September Century, a comprehensive article, dealing with the character of the Cossacks, their horses, military organization, tactics and special maneuvers. The illustrations include a portrait of the Cossack general, Rennenkampff.

In a paper entitled "In the Peril of the Sea," Mont St. Michel is picturesquely described in drawings by Joseph Pennell and in text by Mrs. Pennell.

An article of novel and widespread interest is Mr. Gilbert H. Grosvenor's "Inoculating the Ground," which sets forth a remarkable discovery in scientific agriculture which is likely to have far-reaching influence.

A feature of the number is an ode in the Wordsworthian spirit by Henry van Dyke, entitled "God of the Open Air," with pictures and decorations by Henry McCarter, printed with a touch of color.

There is also a paper of "New Material Concerning the Lewis and Clark Expedition," consisting of portraits of William Clark, one by an unknown artist and the other by George Catlin, the famous painter of Indians, together with two letters from Clark, one to his brother George Rogers Clark, describing the expedition, and the other to Charbono, the husband of Sacajawea, the young Shoshone woman whose service to the expedition as guide is to be recognized by a statue to be erected by the women of Oregon.

A practical article by Prof. John Bates Clark, of Columbia University, on "The Real Dangers of the Trusts," includes suggestions as to remedies, and is the fruit of long and intimate study on this subject.

St. Nicholas' two serials, Gensai Murai's "Kibun Daizin," or from Shark-Boy to Merchant Prince, and Mary Constance Du Bois' "Elinor Arden, Royalist," continue strong features. The pretty tale of "Elinor Arden, Royalist," comes to an end in the October number, but early book publication of the story is announced. The adventures of the young Japanese hero, "Kibun Daizin," increase in interest and excitement. There are plenty of short stories, too, in the October issue for both girls and boys.

The serious article of the October St. Nicholas is the account, by George Ethelbert Walsh, of "What a Lump of

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The novelette in the current number of Lippincott's Magazine is a tale of the Great Lakes from the pen of Karl Edwin Harriman. Its title is "A Lad's Love," and through its pages the island fisher-folk are presented as only one who loves them in their atmosphere of simplicity could do. The serpent in Eden comes (with a camera) from a near-by city and insidiously wins his way, amid the deep silence of the wood, into the favor of loving little Margy Kergan, whose true island lover has gone for a draught of the world's activity before settling down to "the simple life" with Margy. The story is an affecting one, relieved from deepest tragedy by native humor and a beautiful end.

First among the well-chosen short stories comes Eleanor A. Hallowell's "Brindle Boy," in which a pretty girl, a bulldog, and a red cart combine to make a lively love story. Francis Howard Williams contributes "The Tragic Touch." This contains both the grace and fire that may be confidently expected from Mr. Williams. "The Waywardness of Susan," by Luellen Cass Teters, is a tale of a farmer's widow. Her life had been one of renunciation, and after the taking off of her husband she determined to have her "fling." She soon finds out that what has before seemed desirable is no longer, and she promptly makes out a new programme. Alfred Stoddard's sporting stories have become an established fact in the autumn season. The one entitled "The Dark Horse" shows distinct advance in his special art.

A prominent Southern lawyer who had just repented of his wild ways and joined the church was called upon in a religious meeting to pray. He started off very well, but did not know how to stop. After asking the divine blessing on everything he could think of, with a determined effort he finally ended with these words: "Yours truly, P. Q. Mason."—Harper's Weekly.

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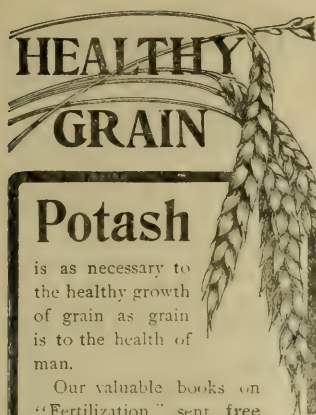


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Texas Experiment Station, College Station, Texas. The Composition of Rice By-Products.

Virginia Weather Service, Richmond, Va. Report for August, 1904.

During the holiday season, when good cheer everywhere prevails, there is nothing nicer to have in the house than a little good whiskey, and besides, the best physicians prescribe it in many cases of sickness. But you must have good whiskey, pure whiskey. You don't want to drink poor whiskey yourself, much less offer it to your friends, while as a medicine, poor whiskey, adulterated whiskey, is injurious. If you want something real good for Christmas, good for medicinal uses, good for all uses, good at all times, read The Hayner Distilling Company's offer elsewhere in this paper.

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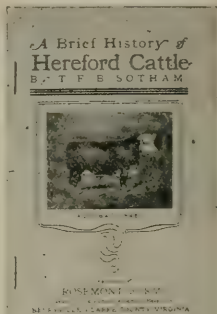
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ing herewith a photo of the front cover page. Farmers and stockmen generally should send for this brochure, as they are sure to find it very interesting.

Rosemont Herefords are booming these days. Mr. L. Roy Stacy, the herd manager, writes us that he sold 10 head in the South in September, that inquiries are pouring in, and that they will probably clean up all surplus stock in October to make room for a new lot.

A half page ad. of this farm will be found elsewhere in this issue, and we invite the attention of our readers to it.

In China, many of the people "shave dry"—that is, without moistening the beard. It can hardly be a pleasant performance, but not much worse in its effects than the use of cheap, inferior soap. Shaving is a delicate operation, and demands a soap made for the especial purpose. As per their offer elsewhere in this paper, the J. B. Williams Company will send for the cost of mailing a trial tablet of Williams' Shaving Soap—"the only soap fit for the face." It won't take long to write them, and your face will never cease to thank you.

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"O Lord, we thank Thee for all Thy boundless goodness; for this rich and beautiful land of ours; for our brave women and valiant men. We thank Thee that we are fully able to take care of ourselves on land; but, O Lord, we do most humbly implore Thy assistance when the Yankees send those infernal gunboats to destroy us."

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All prices and sizes. Ask for free list.

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THE NAVAL ACADEMY AT ANNAPOLIS.

Mary Washington.

After a very interesting trip to West Point, of which I have given some account in the pages of the SOUTHERN PLANTER, I next proceeded to Annapolis, and thus had an opportunity of comparing the military and naval academies of the United States. While there are some few features in common, such as strict discipline and fine educational advantages, the two academies are very dissimilar in many respects. At West Point the object seems to be to make the cadets stiff and rigid, at Annapolis it is to make them supple and limber. While the summer season is so gay at West Point it is very quiet at Annapolis, only the Plebe class being there at that time. Early in June the upper classmen go off on a cruise, somewhere in American waters, as they do not go into foreign waters till their course of study at Annapolis is finished. These summer cruises give them a practical knowledge of seamanship. They return late in August, and are then given a month's furlough to visit home, so the academic year does not open until October 1st. Last winter the first class graduated in February, the Government being in pressing need of naval officers. The same thing is to be done this winter also.

Some time ago Congress made large appropriations (\$13,000,000, I believe) for making new, fine and larger buildings at the Naval Academy. This work has been going on for five or six years, on a grand scale. Some of the buildings are finished, and others are approaching completion. The barracks which are nearly completed, will be the largest and finest in the world, being built of granite and containing 1,600 rooms. On either side of the barracks stand the new armory and new seamanship building, magnificent structures of gray granite, each costing \$400,000. The officers' club has just been completed, and a handsome new chapel and various other buildings are in process of construction. I was told that 500 laborers were employed about these buildings. The barracks and buildings on either side of it front on Annapolis Harbor, which is a basin of Chesapeake Bay, whilst the Severn river, which here empties into the harbor, is on the left, and the other two sides of the grounds (which are nearly square) are enclosed by a brick wall with gates. Great attention is paid to rowing and other aquatic exercise. Every other afternoon the midshipmen row from 3 to 5 P. M., and on the alternate afternoons they go out on steam launches. They have a monitor boat ("The Terror") for practice in gunnery, whilst an old vessel ("The Jante") is kept there as a prison ship.

It was only by a long and very gradual process of invention that the Naval Academy has reached its present state

To Land Owners.

Have you a map of your farm, or is your old map torn and falling to pieces? I make a specialty of farm map making, and should be glad to make you a nice map. If you haven't a map, copy the metes and bounds from your deed (be careful in copying), and mail to me; or if you want your old map copied, mail it to me. My maps are made on best quality mapping cloth (doesn't tear or fade), and look well framed and hung on the wall. Are you satisfied that you have contained as many acres as you paid for? or are you buying or selling land and wish to know the area without going to the trouble and expense of a new survey? If so, let me calculate the area from the old notes on your deed. Many of our old surveyors were very careless with their calculations, and I may save you many times my small charge for calculating.

My charges are: For maps, \$2.00 each; for calculating area, 10 sides or under, \$1.00; 10c. extra for each side over 10. SPECIAL ATTENTION given to surveying and dividing large tracts of land and to surveys of coal, timber and mineral lands in Virginia, North Carolina and West Virginia.

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1,000 acres on Indian river, Fla. Building lots, orange and grape fruit groves, pineapple plantations, wild land. \$5 to \$10 per acre. Also a bearing fruit farm near Lynchburg, Va., \$15 per acre. Owing to poor health, will sell any quantity desired cheap on easy terms. Rare opportunity for profitable investments. JAS. HOLMES, College Park, Va.

SALESMEN WANTED

In Virginia and adjacent territory for old established line of live stock remedies. Only those with experience in this or similar line, and capable of earning \$100 net or more, per month need apply. Give references and full particulars in first letter. Address JOS. HAAS, V. S., 106 So. Penn. St., Indianapolis, Ind.

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as farm manager by a first class man, with practical and educational experiences in farming, dairying, cattle, sheep, swine and poultry, gardening, flowers, fruits and vegetables. R. S., care Southern Planter.

WANTED

At once a SOBER, HONEST, HEALTHY, ABLE-BODIED young man, married, who understands the handling of horses, to take position on a country place in Virginia. German preferred. Apply Miss L. B. COCKE, Brems Bluff, Va.

POSITION WANTED

on a stock and dairy farm, by man who has had experience with cattle. W. F. DAVIS, R. F. D. 6, Gaffney, S. C.

.. Second Hand Bags..

Wanted. Any kind, any quantity, anywhere. I pay the freight. GEO. T. KING, Richmond, Va.

Ginseng, Golden Seal and Seneca Snake Root. Don't take but few square yards to pay more dividends than a whole farm planted in anything else. Send stamp for particulars, prices, etc. J. L. GIBSON, Bryson City, N. C.

Make Your Idle Money Earn You Interest.

Write the **FIRST NATIONAL BANK of RICHMOND, VIRGINIA** for information concerning its certificate of deposit, so arranged that one per cent. may be collected every **FOUR MONTHS** through your nearest bank or store.

Our experience proves this form for savings to be the most satisfactory plan yet devised for deposits of \$100.00 or more.

Our Capital and Surplus is

ONE MILLION DOLLARS.

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VEST POCKET ELECTRIC LIGHT.

The lamp is enclosed in a fine Morocco case with nickel trimmings. Just the light for the farmer, the housewife or the mechanic who has to search in dark places where another light would prove dangerous. No oil, smoke or odor, press the button and the light is at your service. Price by mail postpaid \$2.00. Address,

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Box 144, - - Norristown, Pa.

VIRGINIA DIVISION.

FARMER'S MUTUAL BENEFIT ASSOCIATION.

Chartered by State of Virginia.

A fire Insurance Association for Farmers of Eastern Virginia.

Organized January 9, 1899; amount insured January 9, 1904, \$100,000; policies secured by real and personal property, estimated value, \$1,000,000. - send for statement of plan and book of membership to CHAS. N. FRIEND, General Agent, Chester, Va.

THE KEELEY INSTITUTE
GREENSBORO, N.C.

For the treatment of THE LIQUOR, OPIUM, MORPHINE and other Drug Addictions. The Tobacco Habit, Nerve Exhaustion.

WANTED!

ALL KINDS OF

LIVE WILD BIRDS AND ANIMALS

Particularly Deer, Wild Turkeys, White Squirrels, Ducks, Swans, Bob White Quail, Grey Squirrels, Bear, Baby Raccoons, Foxes, Etc.

DR. CECIL FRENCH,

718 Twelfth St. N. W., Washington, D. C.

Mention THE SOUTHERN PLANTER in writing.

of excellence, although West Point was put on a secure basis as far back as 1802, but the Government was strangely blind to the claims and the importance of the navy, and in spite of the numerous appeals and efforts made in behalf of the Naval Academy, there was no regular one founded until 1845, though prior to that time there were some small naval schools serving as adjuncts to navy-yards at New York, Boston and Norfolk. It is true that as far back as 1798 the Navy Department established by act of Congress provided for a small armament and a body of officers proportioned to the number of ships. The officers were selected from merchant ships, the upper grades filled by men who had served with distinction during the Revolution. There were eight midshipmen on each ship, appointed by the President from civil life. No provision was made for school masters. The chaplain was expected to fill this office, and was ordered to teach writing, arithmetic, navigation and whatever might contribute to render them proficient. This crude system worked very badly, as might be expected, the subjects the chaplains were required to teach being foreign to their training and studies, and they being appointed without reference to their fitness for this work.

Earnest appeals were made by successive Secretaries of the Navy, setting forth the importance of a high grade Naval Academy to train the young midshipmen in scientific branches and modern languages, as well as in seamanship. John Quincy Adams was firmly convinced of the importance of this measure, and made special reference to it in his annual message in 1825. He said: "Our navy commenced at an early period of our national organization on a scale commensurate with the incipient energies, scanty resources and comparative indigence of our infancy, and was then found adequate to cope with all the powers of Barbary, save the first, but it is only since the close of the late war that by the number and force of the ships of which it is composed it could deserve the name of navy, yet it retains nearly the same organization as when it consisted of only five frigates. The rules and regulations by which it is governed earnestly call for revision, and the want of a naval school of instruction, corresponding with the Military Academy of West Point, for the formation of scientific and accomplished officers, is daily felt with increasing aggravation." Congress, however, received the President's suggestions with strange apathy, and took no action on the matter. Shortly afterwards (January, 1825) the Maryland House of Delegates, then in session at Annapolis, adopted the following resolution:

"Resolved by the General Assembly of Maryland, That our Senators and Representatives in Congress be, and

Take no chances with your face. Demand Williams' Shaving Soap.

Sold everywhere. Write for booklet "How to Shave."

The J. B. Williams Co., Glastonbury, Ct.

"Crop Growing and Crop Feeding."

By PROF. W. F. MASSEY.
333 Pp. Cloth, \$1.00; Paper, 50c.

We offer this splendid work in connection with the SOUTHERN PLANTER at the following prices:

Southern Planter and Cloth Bound Volume, \$1.25.

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SAVE THAT PORKER.

To any person sending us 25 cents in stamps or silver we will send by mail a bottle of GREGORY'S ANTISEPTIC HEALING OIL, guaranteed to cure every case of Cholera in hog or chicken if administered in first stage of the disease. Cures colic in man or horse in one or three minutes. If it fails drop a postal card and we will return stamps or money. Full directions given. GREGORY MEDICINE CO., Conway, Ark. Send now, as this ad. will not appear but three times.

MILK OIL DIP FOR Cattle, Sheep, Hogs.

Oldest American Dip. Cheapest. Most Effective. Strongest Obtainable. 1 gal. can \$1.52 gal. bottle \$1.00. Catalog Stockmen's Supplies Free. F. S. BURCH & CO., 144 Illinois Street, CHICAGO.



FOR SALE

2 young pure bred RED POLLED COWS, with bull calves at foot. 1 pure bred yearling heifer, and 1 half bred Red Polled yearling heifer. A nice flock of 16 pure bred SHROPSHIRE EWES. A lot of pure bred young JERSEY COWS. A nice lot of S. White Leghorn fowls. Biltmore prize winning strain. A SPLENDID FARM of 383 acres 6 1/2 miles from University of Virginia. A nice large 8 room house, recently repaired and painted, and as good as new, with hot and cold water and bath, 2,000 thrifty fruit trees. New stock barn 48x60, and other outbuildings. Delightful view of Blue Ridge. Splendid water, healthful climate. Fine community: one mile from Ivy Depot; school and churches. For further information, apply to F. E. WILLIAMS, M. D., Charlottesville, Va.

BARGAINS TILL NOV. 1st.

I will sell several registered

Percheron Stallions

at sacrifice prices during the next 30 days to make room for young stock during the winter months. I also offer several registered

Short - Horn Cows

at low figures, and nine bulls, ranging in age from 6 mos. to 17 mos.; all good ones, and several show animals in the lot, by the following noted sires, JOUBERT, he by HOGARTH; Lord Lavender, by Lavender Lad; and champion grandson of Cup Bearer. My cows are by Lord of Spring Creek, Gov. Tyler, Champion, and Duke of Weldon, no better blood in the world, and the cows and bulls show their breeding in their conformation. JOHN F. LEWIS, Lynnwood Stock Farm, Lynnwood, Va. N. & W. R. R.

FOR SALE

A fine team of gray

PERCHERON MARES

weighing about 2500 pounds, 6 and 7 years old, very active, fine workers everywhere, both safe in foal to the great gray Percheron stallion DOM PEDRO, No. 16559, recently sold at a long price to Messrs. Hicks & Hopkins, of Matthews Co. Price of mare \$400. If convenient, will trade in a good driver for part payment. MEYER & JEHNE, Farmville, Va.

THOROUGHBREDS for Sale.

RAY COLT "BURT" May 10, 1901. By Aurora, Cara Bell, by Imp. Charcoal.
FLORENCE GLENN No. 15709, chestnut mare, by Linsey Woolsey; Thelma, by Imp. Escher, foaled May 27, 1898.

BROWN FILLY, Hannah G. C. No. 32735, foaled March, 1902, by Aureus; Kathleen Gray, by Jim Gray. For further information, apply to S. H. WILSON, R. F. D. 2, Byrdville, Va.

SADDLE MARE FOR SALE.

I have a fine black Kentucky mare 15 1/2 hands, all saddle gates and an elegant bugzy mare, single or double. She is by Vontrose out of Frenchy Squirrel by Black Squirrel one of the finest saddle horses America has ever produced. I bought this mare for a lady to ride, but the mare is high strung and skittish around electric cars, but perfectly safe otherwise. I will sell her for \$225; she is a bargain.

CHAS. B. COOKE, Richmond, Va.

FOR SALE

PERCHERON MARES

Farm sold. I offer fine pure bred mares, the mother and four colts, respectively, 4, 3, 2 and 1 year old. Ancestors are of the best ever imported. Breeding, size and quality first class. Low down. Address T. W. JORDAN, Draper, Va.

Percheron Stallions

For sale: 2 years old and older; bred from the best families in America; perfect in breeding; imported sire and dam; nothing but imported stallion used at the head of stud; prices right.

D. T. MARTIN, Salem, Va.

PURE-BRED

Percheron Stallion

for sale. Age, 5 years; weight, 1,500 pounds. Also some very fine ENGLISH and GORDON SETTERS. E. H. DE BUTTS, Linden, Va.

they hereby are, required to call the attention of their respective houses to the superior advantages which the city of Annapolis and its neighborhood possesses as a situation for a Naval Academy, and that they use their best exertions in favor of establishing such an institution."

This resolution was communicated to the Senate in February, 1826, but did not bear fruit till many years later.

In his second annual message, 1826, the President again urged the expediency of establishing a naval school, together with other improvements in naval organization. A bill for the gradual improvement of the navy was introduced in the Senate, embracing several measures, and especially the founding of a Naval Academy. This was advocated with great force by the distinguished Robert V. Hayne, of South Carolina, the projector of the bill. By the way, he was the uncle of the poet, Paul H. Hayne. This bill passed the Senate, but the House made several amendments in it, one of which was to strike out the clause relative to the Academy. This amendment was carried in the Senate by a vote of 22 to 21, so the founding of the Academy was retarded nearly twenty years by one single vote.

Secretary Southard, at the opening of the next Congress, "respectfully but earnestly presented the subject of a naval school for the consideration of the Government," adding that "he could not perceive the reason for the preference of the army over the navy." The President, in his annual message, reiterated with still greater emphasis his old arguments in favor of founding a Naval Academy. In his next annual report, Secretary Branch used strong arguments on the same point, dwelling on the necessity of giving naval officers thorough instruction in international law and court martial law, and contrasting the elaborate schooling given to the army with the pitiful provision of \$25 a month allowed school masters on board larger ships of war, but this appeal, stirring as it was, availed nothing. It would require a volume to tell of all the futile efforts that were made to secure the establishment of a Naval Academy, but this most desirable result was not attained until 1845, when George Bancroft became Secretary of the Navy. He was a man not only of great scholarship, but of fine judgment and excellent common sense and executive capacity. He saw that separate schools without organization or intelligence constituted as appendages to navy-yards and sea-going men-of-war could never produce satisfactory results. These schools were not fostered nor recognized by law, but merely tolerated because they were useful, even with their limited range of instruction. Bancroft saw that the remedy for this evil was to concentrate at a given point, suitably located for learning seamanship, and there to found an academy where mid-

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Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blenches from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or inflammation. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circular. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

One Experience

with a lame horse is enough. You lost money on that one. You will never need to do so again if you will use

Kendall's Spavin Cure



the old reliable remedy for Spavins, Ringbones, Splints, Curbs, etc., and all forms of Lameness. Cures without a blench as it does not blister. Price \$1; six for \$5. As a liniment for tan's use it has no equal. Ask your druggist for KENDALL'S SPAVIN CURE, also "A Treatise on the Horse," the book free, or address DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

Lump Jaw

Save the animal—save your money—hard-cure every case of Lump Jaw. The disease is fatal in time, and it spreads. Only one way to cure it—use

Fleming's Lump Jaw Cure. No trouble—rub it on. No risk—your money back if it ever fails. Used for seven years by nearly all the big stockmen. Free book tells you more.

Spavin and Ring-bone

Once hard to cure—easy now. A 45-minute treatment does it. No other method so easy—no other method sure.

Fleming's Spavin and Ringbone Paste cures even the worst cases—none too old or bad. Money back if it ever fails. Free illustrated book about Lump Jaw, Spavin, Ringbone, Splint, Bug Spavin and other stock ailments. Write for it.

FLEMING BROS., Chemists, 320 Union Stock Yards, Chicago, Ill.



NEWTON'S Heaver, Cough, Discharge and other ailments. A veterinary specific for wind, throat and stomach troubles. Strongly recommended. \$1.00 per can. Dealers, Mail or Box paid. The Newton Remedy Co., Toledo, Ohio.

NO MORE BLIND HORSES.

For Specific Optic Atrophy, Moon Blindness, and Other Sore Eyes, Barry Co., Iowa City, Ia. have sure cure.

OPIUM

and Whiskey Habits cured in 10 days without pain. Book of particulars sent FREE. E. M. WOOLLEY, M.D., Atlanta, Ga., 103 N. Pryor St.

BROWN LEGHORNS, White Plymouth Rocks.

Some fine cockerels and pullets for sale cheap.

R. W. HAW, Jr., Centralia, Va.

SPECIAL SALE

BARRED PLYMOUTH COCKERELS for sale at a very low special rate if taken before November 1, 1904. Thoroughbred stock, and are very fine birds. Elegantly marked. Address **PIEDMONT POULTRY PLACE, Whites Depot, Va., Miss E. CALLIE GILES, Propr.**



S. C. WHITE LEGHORN and B. PLYMOUTH ROCK
Pullets and Cockerels, best strains; also eggs at \$1 per sitting of 15 f. o. b. here. Write for full particulars. **PRICE & PRICE, Proprs. Green Bay Poultry Yards, Green Bay, Va.**

White Leghorn

Cockerels for sale. Exhibition or breeding stock. Address

C. G. M. FINK,

R. F. D. 2,

Richmond, Va.

BARGAIN SALE



of Cockerels; Langshans, Orpingtons, Rocks, Wyandottes, Minorcas, Leghorns and others. Write wants. Low prices for early buyers. Large illustrated poultry book describes 40 varieties best poultry, only 6c. List free.

JOHN E. HEATWOLE, Harrisonburg, Va.

PIT GAMES

Black Devils and Red Cubans.

Where they won, Sharon, N. Y., 4 out of 5 Blue Rock, Pa., 2 out of 3. Clarion, Pa., 1 straight. Roanoke, Va., 8 out of 9. Akron, Ia., 2 straights. Eggs, \$2 per sitting. Young chicks, quail also, \$2.

THOS. W. JARMAN, Yancey Mills, Va.

FOR SALE

Young S. C. WHITE LEGHORN Cockerels of the celebrated "Bonnie Brae" stock. Price, \$1.50 each. **MAXWELTON POULTRY FARM, Gladys, Va.**

PIEDMONT HEIGHTS FARM

has for sale a lot of

S. C. B LEGHORN COCKERELS.

June hatched. \$1 each. **F. C. LOUHOFF, Yancey Mills, Va.**

Pure-Bred Buff Orpington

Cockerels for sale; \$1 up, depending on quality. Write me what you want. **T. M. KING, Queenland Farm, R. F. D. 2, Hagan, Lee County, Va.**

Mention THE SOUTHERN PLANTER in writing

shipmen could meet with thorough and efficient training for their profession. Fort Severn, at Annapolis, seemed to offer the most suitable location, it being an old army post, bought by Government in 1808, and containing officers' barracks and quarters sufficient for the institution in its infancy.

School was opened here in October, 1845, the commander being Franklin Buchanan, of Baltimore, a man of distinguished ability and an excellent organizer and disciplinarian, who "set the pace" (and the proper one) for the infant Academy. In later years, when the Civil War broke out, Admiral Buchanan cast in his lot with the South, and added lustre to the records of our small but glorious navy.

At the breaking out of the Civil War the pressure of Southern feeling was so strong in Maryland that it was not deemed advisable to have the Naval Academy located in that State, hence it was removed to Newport, R. I., soon after the outbreak of the 19th of April, 1861, in Baltimore, and it remained at Newport till the close of the war. Even now there seems a little lingering fear of Southern feeling manifesting itself too strongly—that is, if the information I received at Annapolis be true—viz., that the band is not allowed to play "Dixie" there. This is very different from what it is at West Point. At the open air concerts there at night during the summer they play "Dixie" occasionally, and the cadets in camp nearby shout lustily, Northerners and Southerners together.

There is a great jealousy between West Point and Annapolis, though it seems much stronger with the latter than with the former, possibly because the West Pointers feel so serenely convinced of their own superiority. Enthusiastic praises of West Point are not listened to sympathetically at Annapolis. I doubt whether the annually contested football game is a judicious thing between these rival academies.

It is amusing to contrast the slang of the two sets of boys. At West Point, if they mean to say you have gotten into any one's good graces, they say, "you have a boot lick on him," whilst at Annapolis they say "you have a grease on him." To get demerits at West Point is to "be skinned," whilst at Annapolis it is to "hit the tree." What they call "hazing" at West Point is "running" at the Naval Academy. Candy and other contraband delicacies at West Point, smuggled in by friends and relatives, are called "boodle," but I heard no corresponding term at Annapolis, possibly because the authorities there are rather more indulgent about such things. They give the midshipmen a dollar a month for pocket money, which they can spend in town on Saturdays for any little thing they want. At West Point the cadets nicknamed a very strict and unpopular tactical officer "The

FANCY-BRED

Belgian Hares

—AND—

Buff Plymouth Rock

chicks for sale.

J. M. WILHELM, Statesville, N. C.

WHITE HOLLAND TURKEYS, W. PLYMOUTH ROCK FOWLS, TOULOUSE GEESE, PEKIN DUCKS and PEA FOWLS.

Eggs in season. Will exchange for White Plymouth Rocks.

OK HILL FARM, Wenonah, Va. (Oak Hill Station, D. & W. Ry.)

WANTED

We wish to buy from two hundred to three hundred well bred S. C. WHITE LEGHORN yearling hens. **MAXWELTON POULTRY FARM, Gladys, Va.**

SATISFY YOURSELF

SPLENDID BARRED PLYMOUTH ROCK COCKERELS (Bradley Strain). Can be returned if don't please. **L. W. WALSH, Box 191, Lynchburg, Va.**

WANTED to Sell

18 thoroughbred W. P. Rock hens, and buy or trade for Percheron colt. Mrs. L. AVERILL, Howardsville, Albemarle county, Va.

CHICKENS

for sale. **B. P. ROCK, S. C. E. LEGHORN and WHITE WYANDOTTES.** Fine pure bred stock. Prices reasonable. Write Miss **CLARA L. SMITH, Croxton, Caroline county, Va.**

St. Bernard Pups

of Imported and prize winning stock, **FOR SALE.** For particulars, address,

E. F. HENKENIUS, Tyler,

Hanover Co., Va.

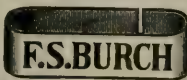
Scotch Collies

Champion blood of England and America. Puppies now ready to ship. Also bitches in whelp for sale. **MEYER & JEHNE, Farmville, Va.**

COLLIE PUPS

By Imported Sires—able and white and tri-colors. Prices, \$8 to \$15. Older ones correspondingly low. Book on Training, 50 cents. **Free if you buy a Collie.**

MAPLETON STOCK FARM, Rutland, Vermont.



Ear Labels
for SHEEP, HOGS and CATTLE, from \$1.00 per 100 up.

Best on the market. Send for Free Catalogue Stockmen's Supplies. **F. S. BURCH & CO., 144 Illinois St. Chicago.**

ENGINES: 13 Horse Tractor \$250; 10 Horse Tractor \$500; Boilers, Engines new and used from 4 to 100 Horse. Single saw mill \$125; Double mill \$184; Machinery of every description at one-third actual value.

D. CASEY, Springfield, Ohio.

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BERKSHIRES

ANNFIELD HERD

Contains the

Finest Blood Lines

In England and America.

Young Stock for Sale.

Inquiries cheerfully answered.

EDW. G. BUTLER, Annfield Farms,
Berryville, Virginia.

Berkshire Pigs

ready for October and November delivery by my 700 lb. boar. Capt. Jack 68623 and out of sows weighing from 500 to 600 lbs. in only fair breeding condition. To show that these pigs are extra good, I WILL SHIP TO RESPONSIBLE PARTIES ON APPROVAL.

Every hog in my herd is registered.

WOODSIDE STOCK FARM,
Charlottesville, Va.



OUR herd represents the very best strains of imported Large English Berkshires. Choice stock at reasonable prices.

Address

Cottage Grove Farm,

P. O. Box 5, Greensboro, N. C.

BERKSHIRES

No more spring pigs for sale. One registered sow has farrowed and two more are due. These pigs, sired by MASON OF BILTMORE II (68548), will be booked at \$6 each or \$10 a pair f. o. b. when 10 weeks old. None but Biltmore blood in my herd.

ROBERT HIBBERT, Charlottesville, Va.

REG. BERKSHIRES

ready for shipment. Will sell cheap. S. C. B. LEGHORN chickens, 65c. each; good, healthy well bred stock. 3 year old Reg. Jersey Bull at \$50. Selling to prevent inbreeding. EVERGREEN DAIRY & STOCK FARM, W. B. GATES, Propr., Rice Depot, Va.

IN ALL THAT'S GOOD,
OWENS OFFERS THE BEST
The Cedars Kennels, Poultry and Stock Farm.

Home of the most fashionable strains of Llewellyn Setters, Beagle Hounds, Jersey Cattle, Duroc Jersey and Poland China Swine, M. B. Turkeys and B. P. R. chickens. Fanciers' Stock—Farmers' Prices.
WM. G. OWENS, Midlothian, Va.

Buzzard." At Annapolis they had one of the same kind, whom they called "The Bull."

The expansion of the navy is going on at such a rate that they have about 800 midshipmen this year. Quite a large percentage of the Plebe class, however, generally drops out in the February examinations.

DAN PATCH IS O. K. AGAIN.

The public at large and the turf particularly, were startled recently by an Associated Press telegram announcing that the famous Dan Patch, owned by Mr. M. W. Savage, Proprietor of International Stock Food Co., was suffering from strangulated hernia, and that his recovery was impossible. We are pleased to report such is not the fact, and that he is back home and doing nicely, as evidenced by the following letter from Mr. Savage, under date of September 23d:

"Yesterday at my farm I gave Dan Patch five miles of jog work. He has entirely recovered from his illness, and is strong and vigorous. Impaction of the bowels does not usually leave any bad effects, and we expect Dan to be at the top of his speed at Springfield, Ill., October 6th. He will also fill several other dates after the Illinois State Fair, and we believe he will go some sensational miles before the close of the season.

"You can imagine that I am extremely happy to report these conditions, in view of the fact that Tuesday evening, September 13th, Dan was given up as beyond hopes of recovery by three veterinary surgeons at Topoka, Kan.

"He arrived at my farm Tuesday, September 20th, where he has regained his strength very rapidly.

"Very truly yours,

"M. W. SAVAGE.

IMPORTANT SALE OF HEREFORDS

During the International Live Stock Show an opportunity will be given to those who wish to purchase high class Hereford cattle at auction. On Friday, the 2d day of December, will be offered a number of bulls, cows, heifers and calves from the best known Hereford families. Among the animals now entered in the sale are those whose sires and dams are renowned on both sides of the water as champion winners, and good enough to stand at the head of any herd.

Parties who desire to put in the sale a few high-class Hereford cattle, by sending in a full description of the animals they wish to offer before October 15th, to Mr. G. H. Hoxie, Room 52, Exchange Building, Union Stock Yards, Chicago, will be advised as to the selection of animals for sale.

The committee that will be in charge of the sale will insist that all animals consigned to the same must be sold outright. Experienced auctioneers will be selected to conduct the selling.

THOROUGH-BRED...

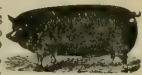
**Berkshire Boars,
Dorset Buck Lambs,
Jersey Bull Calves.**

All stock in best of condition and guaranteed as represented.

F. T. ENGLISH, Centerville, Md.

OAK - GROVE - STOCK - FARM

offers for sale a number of fine ESSEX PIGS November delivery. Also some choice POLAND SHOATS, March, 1904, farrow, \$15 per pair. Your orders solicited. All stock as represented.

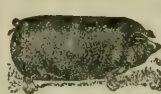


L. G. JONES, Tobaccoville, N. C.

ORCHARD HILL PURE-BRED

POLAND CHINA

Pigs and brood sows for sale. Also a fine Guernsey Bull Calf and S. C. B. Leghorn Eggs. F. M. SMITH, JR., R. F. D., 4, Charlottesville, Va.



Registered P. Chinas
Berkshire
C. Whites. Large
strain. All ages mated
not akin, bred sow,
service boars, Guernsey
calves, Scotch
Collie pups, and Poultry.
Write for prices

and free circular. P. F. HAMILTON,
Cochranville, Chester Co., Pa.

Salt Pond Herd.

DUROC JERSEYS

Home of Paul J. 21625. Also Lulu's Pet 40434. Pigs of March and May farrow for sale. Write for what you want.

S. A. WHITTAKER, Hopeside, Va.

HAWKLEY STOCK FARM

Has for sale, a choice lot of

English Berkshires Pigs

Can furnish pairs not akin. A few young Boars ready for service; all of the choicest breeding. J. T. OLIVER, Prop., Allen's Level, Va.

PURE-BRED

BERKSHIRES

for sale. 8 weeks old, at \$10 per pair.
W. W. ROBINSON, Chase City, Va.

A fine 14 months old

DUROC JERSEY BOAR,

bought direct from the West, for sale. Price, \$30. H. D. LINDSEY, Rockford, N. C.

WANTED

A Registered Duroc Jersey Boar, not over 8 months old. AUGUST HENNINGS, Irwin, Va.

Mention THE SOUTHERN PLANTER in writing.

Mansfield Farm Bargains

Having Rented My Farm
Must Sell

Herd of O. I. C. Swine.

Herd Boar, Fitz Lee, No. (9210) O.I.C. Rec'd
Brood Sow, White Beauty, " (9218) " "
" " Silver Belle, " (9238) " "
" " Perfection, " (10043) " "
" " Sensation, " (10045) " "
" " White Wings, " (10044) " "

All young, had second litters; good breeders; healthy; 80 head, average of 8 at litter. Rare chance—for quick buyer.

Young Boar, Parker, Fitz Lee, White Beauty, 6 Young Boars, 3 Young Girls, lot of pigs, either sex. Bargains every one.

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Star Pea Huller \$20.00, nearly new, cost \$25.00. This machine is a success—sure.

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For
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GOOD HOUSEKEEPING.

OLD MISSION PICKLE.

Two dozen large cucumbers. If your vines have given out, use the brined cucumber; if they are small, put in more of them. Two dozen green peppers; if it is hot pepper, take out all the seed. Six dozen large onions. Eight large heads of cabbage. Cut all these into big pieces and sprinkle salt through the mass; put it into a bag and let it drip all night, squeeze the bag the next morning and put the vegetables into a kettle in layers, with the following spices between: Four ounces of black mustard seed, four ounces of white mustard seed, four ounces of celery seed, six ounces of turmeric, three-quarters of a pound of ground mustard, two gallons of cider vinegar, with eight pounds of sugar dissolved in it. Pour this over the mixture and boil until the vinegar begins to thicken. This makes about four gallons and a quart, and is by far the best pickle for general use I know of.

ONION PICKLE.

The very small silver skin onions are best for this. Peel them and put them into a brine that will bear an egg. Let them stay in the brine for four days. Soak them in clear water for a day, then take them out and weigh, and to each pound allow one-quarter of a pound of white sugar, one cup of vinegar, one dozen cloves, a teaspoonful of white mustard seed, a teaspoon of celery seed and to every four pounds add a small pod of red pepper. Heat the vinegar, sugar and spices and put the onions in and let them scald, not boil, for an hour. For three mornings heat the vinegar and pour it over the onions, and then tie up and do not use for two months.

APPLE JELLY.

At this season when we are canning and preserving apples it is well to remember that few things are so useful in housekeeping as fruit jelly, and that good jelly can be made from the peelings and cores of many of the fruits, especially of quinces and apples. The light colored acid apples make the best jelly, but any kind will do. Wash them well and chop fine; put them into a granite kettle and nearly cover them with water. Let them boil all to pieces, then turn the mass into a bag and hang it up to drain, never pressing the bag. When it is all drained out measure the juice and allow one pound of sugar to each pint of juice. Heat the sugar, put the juice on the stove and let it boil up, skim well, and then add the heated sugar, and let it boil hard for twenty minutes. Sometimes it takes a little longer, but usually jelly is made in twenty minutes, and the less you cook it the better.

MIXED SALAD.

A very delightful salad is made with cucumbers, onions and tomatoes cut in thin slices. Soak the onions in a good pan of water for some hours before

:: SOME VERY FINE ::

RED POLLED

Calves, entitled to registry, for sale; also a few very good

Poland China Pigs

whose breeding cannot be excelled. Only one SHETLAND PONY for sale now.

ARROWHEAD STOCK FARM, SAM'L B. WOODS, Propr., Charlottesville, Va.

For Immediate Sale,

We offer the following

Pure-Bred HEREFORDS:

7 bull calves and yearlings, 6 heifer calves and yearlings, 3 heifer calves, 2 years old, and PEERLESS WILTON, our 3 year old herd bull. The young stock is by such noted sires as BEAU DONALD and VAN, a half brother to PRIME LAD, sweepstakes winner. Also 23 pure bred BERKSHIRE PIGS, both sexes, of the very choicest breeding; our herd boar, DORSET LEE OF BILTMORE, and 2 extra fine young sows. ELKTON STOCK FARM, Forest Depot, Va.

PLEASANT VALLEY STOCK FARM

Shorthorn

calves from fine milking stock.

Yorkshire Pigs

of prolific breed.

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FOR SALE OR EXCHANGE

ALBENSON: 6249, Standard bred stallion 1 1/2 hands high; weight, 1,200 lbs. Rich bay with black points throughout.

GEO. D. WINGFIELD, Bedford City, Va.

30 ANGORA GOATS

For sale at
reasonable Prices.
Kids in Pairs.



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FINE STOCK FOR SALE LOW

7-8 and 15-16 GRADE ANGUS BULLS AND HEIFERS from 6 months to 2 years old. One bull calf half Angus and half Short-horn. Fine Buck Lambs out of Shropshire Ewes by Reg. Dorset Buck. Fine family milk cows fresh young and gentle. One pair splendid 1200 lbs. Bay Mares 6 yrs. old, first class all round farm teams and very good roadsters. Silver Lace Wyandotte Cockerels and Pullets at one dollar each.

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Born as follows: Dec. 15, 1903; Jan. 30, 1904; May 15, 1904; June 2, 1904; Aug. 11, 1904. Calves will be kept with their dams until 9 mos. old. None sold younger, and NOT SOLD AT ALL AS BULLS, unless they turn out good specimens of the breed.

I shall also be ready to part with my herd bull, "ROCKBRIDGE ABACTOR," 40364, Nov. 1st. He will be 5 years old Dec. 2, 1904.

The two calves first mentioned are pure bred and very promising youngsters, but out of unrecorded dams; the three last are registered. I am willing to exchange "ROCKBRIDGE ABACTOR" or any of the above calves for a suitable herd bull, not less than 18 mos. old.

B. F. DAY, Glasgow, Va.

Angus Bull Calves AND Scotch Collie Pups

2 Angus Bull Calves out of 15-16 Angus Cows, sired by registered Angus Bull, \$20 each f. o. b. here. 4 Collie pups, bred in the purple, sired by Ellwyn Astrologer. 59465, imported from England at a long price, whelped by Altonberry. Sire and dam both good, willing workers on ducks, hogs, sheep and cattle. Pups eligible to registry. Angora Goats in any quantity. Address M. S. VALENTINE, Rock Castle, Va.

ANGUS HERD BULL FOR SALE

To prevent inbreeding, we offer our herd bull, PAGAN, 26416; sire, BARONET NOSE-GAY, 13389; dam, PRINCESS ERICA OF LINN, 10369. Pagan is 7 years old, weight, 2,000 pounds, vigorous, active, perfectly broken, an excellent sire. Address ROSE DALE STOCK FARM, Jeffersonton, Va.

25 REGISTERED

HOLSTEIN and GRADE

Milk Cows for sale. Most of them to calve this fall. H. W. MANSON, Crewe, Va.

making the salad. Arrange the vegetables in alternate layers in a bowl with salt, pepper and a teaspoon of salad oil between each layer. Pour over the whole a cup of vinegar. Make this just before the meal, as the cucumbers get tough from standing.

SWEET POTATO ROLL.

Prepare the pastry as for any fruit roll. Roll it out about half an inch thick in a sheet. Spread over this a layer of boiled sweet potatoes, which have been mashed through a colander or sifter and seasoned with sugar, nutmeg and cinnamon, and pour over it melted butter; roll it up and tie it about with a piece of white cotton cloth, securing the ends so that the water will not get in. Boil for an hour and serve with a hard sauce made of a cup of sugar, one tablespoon of butter, and half cup of wine creamed very light.

APPLE PIE.

Line your pie plates with rich pastry and fill them with sliced apples. Make very sweet, sprinkle allspice about in it, and put into each pie a good handful of raisins; cover with a top paste and cook slowly; eat hot or cold with cream.

DELICATE CAKE.

Six cups of flour, three cups of sugar, three cups of milk, or half milk and half water, half cup of butter, one teaspoon of soda and two of cream of tartar. Bake in a loaf and eat with liquid sauce or fruit syrup.

CANNED APPLES.

Peel the apples and core and quarter them; keep them covered with water, or else they will turn brown. Put them into a kettle with enough water to cover, and let them come to a gentle boil; do not stir. Let them cook just long enough to be tender, and not fall to pieces and fill your jars with the fruit and then very full with the boiling juice and screw on the tops at once.

SWEET PICKLED CUCUMBERS.

One pound sugar, half ounce of cloves, half ounce of mace, one pint of apple vinegar. Boil together and skim. Use ripe cucumbers, peel them and take out the seed; cut them into strips or blocks. Boil them until nearly done in clear water with a small piece of alum in it. Take them out of the water and see that they are well dried before you drop them into the boiling syrup. Cantaloupes may be prepared in the same way only they are best if not fully ripe. Put the pickle into glass jars and screw up tight and keep in a cool place.

CORNY OMLET.

Split and score the corn from six ears. Beat three eggs separately, very light. Stir in the corn and add a little chopped parsley. Pour it on a hot buttered pan and cook slowly. When done fold and serve very hot.

CARAVEN.

Mention THE SOUTHERN PLANTER in writing.

MONTEBELLO HERD ABERDEEN-ANGUS CATTLE.

FOR SALE—Registered Bull calves from 3 months old, up.

L. H. GRAY, Orange, Va.

Willow Glen Short-Horns

IN SERVICE:

The Scotch bull Knight of Gloster 192814 and

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FOR SALE—Cows, heifers and young bulls.

DR. D. P. KIPPS, FRONT ROYAL, VA.



COOK'S CREEK HERD SCOTCH-TOPPED SHORTHORNS...

Herd Headed by Governor Tyler, 185948, 1st prize aged bull at Radford Fair, Young Bulls and heifers for sale. Inspection and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

Springwood Short-Horns

Young stock for sale, sired by Royal Chief, No. 185432; he by Imported Royal Stamp, Champion Bull at Ohio State Fair this year. Spring and fall Poland China Pigs and shoats; sired by Coler's Perfection. I will sell this hog at a bargain. Call on or write WM. T. THRASHER, Springwood, Va.

ELLERSLIE FARM 1 thoroughbred Horses

AND SHORTHORN CATTLE, Pure Southdown Sheep and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.

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SADDLE HORSES, JERSEY AND ABERDEEN ANGUS CAT- TLE, BERKSHIRE, POLAND CHINA, RED JERSEY, and TAM- WORTH HOGS, FOR SALE

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Wenonah, Va.

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A fine lot of KENTUCKY bred and big BLACK SPANISH Jacks and Jennets; also 1 and 2 year old Jacks; young stock for sale at all times.

Write or see me before you buy. Come to Kentucky if you want a good JACK. JOE E. WRIGHT, Junction City, Ky.



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ROBERT C. BRAUER, Successor to **Richmond, Va.**
Brauer Cattle Co.,

CATALOGUES.

Peter Henderson & Co., Cortlandt street, New York city. Autumn Catalogue of Bulbs and Flowers, 1904.

Peter Henderson & Co., Cortlandt street, New York. Superior Agricultural Seeds for Fall Sowing, 1904.

The Nut Nursery Co., Monticello, Fla. Catalogue and price list of Bud- and Grafted Nut Trees.

ANGORA GOATS.

Editor Southern Planter:

I am off for St. Louis to attend the meeting of the American Angora Goat Association. They will doubtless have the largest and best lot of Angora goats ever shown before. The United States Government has offered \$3,410 in cash prizes for Angoras, and all the old ranchmen from the West write that they will meet me in old "Saint Leo."

The public sale will take place October 10th, and many fine bucks and does will change hands at long prices. There will be more enthusiasm stirred up at the Angora show than for many years past. There will be quite a variety of Mohair products shown, and rugs, Mohair braids and dress goods will be in evidence everywhere. Will let you hear from me when I return.

Very truly yours, M. S. VALENTINE.
Rock Castle, Va.

SURE REMEDY FOR WORMS.

Nothing can be more annoying than to administer a remedy to stock for any specific purpose only to find that no good is accomplished, money wasted and animals still suffering, when with a really reliable remedy immediate relief would have been given. It is seldom that the articles known as "Cure-Alls" are effective for any one particular purpose. It is the wisest to buy a preparation made to accomplish a certain purpose. For instance, to eradicate worms from all kinds of animals a reliable worm powder should be resorted to, and among these the Summer's Worm Powders have a long and deservedly popular reputation. F. S. Burch & Co., Chicago, can supply you.

The Grove Stock Farm

I OFFER AT RIGHT PRICES THE FOLLOWING STOCK:

One yearling **HOLSTEIN-FRIESIAN BULL,**

Seven **BULL CALVES** (same breed), 2 to 6 months old

These calves are from heavy milkers.

Six **BERKSHIRE SOWS** (1 year old),

Ten **BERKSHIRE SOWS** (5 months old).

All of the above will be registered and transferred to the buyer.

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ROYAL ANGUS CATTLE

is not surpassed either in breeding or individual animals, by any herd in the East. At the head of our herd is **PRINCE BARBARA, 68604**, the son of the great \$3,100 Prince Ito. Females of equally choice breeding. Write your wants. Remember, we take personal care of our cattle; keep no high priced help; incur no expense of exhibiting; all of which enables us to offer stock at equitable prices. Send for pamphlet.

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We are NOT particular'y proud of the fact that we have one of the best herds of Angus Cattle in the South, or that we have in our herd some of the finest specimens of the breed. Because we have been breeding Angus for years and of course have had much better chance to select and breed up our herd to the point of greatest excellence than have breeders of only a few months or years experience.

But we ARE proud of the fact that during all these years we have NEVER heard from one of our customers who was not in every way satisfied with his purchase and the treatment he received. We hope to continue right along this line. Write for circulars and prices to

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If so, list it with us. No sale, no charge. Largest list of farms for sale in Virginia. Write for Free Catalogue.

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GREATEST LIVING HEREFORD SIRE.
CHIEF STOCK BULL.

Acrobat Leads

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10 head Rosemont Here-
fords sold in Dixie
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REASON?

LOWEST PRICES, ..
BEST INDIVIDUALS,
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Marquis of Sallsbury 16th
Best Son of Imported Sallsbury.
WILL SELL AT A BARGAIN.

Send for large plate picture of ACROBAT (14x18 inches), free to all who will frame it. Send for our Herd Catalogue. History of Acrobat, Pictures of Cattle, Rich Pedigrees, Bull Calves by ACROBAT; Perfection, the \$9,000 champion son of the Champion Dale; Protector, prize winner on both sides the water, imported from Herefordshire, England, cost \$6,000; Independent, bred at Shadeland; Lars, Jr., son of Champion Lars, and others.

Our herd Cows are the best—by such noted prize-winning bulls as Dale, Crusader, Beau Donald, Acrobat, Earl of Shadeland 22d, Corrector, Perfection, Protection, Lamplighter, March On, Chesterfield, Conqueror, Boniface, Well Done, Royal Flush.

Send for our Hereford History. It's free. We give you time to make payment.

The Rosemont Herd is the largest and best in the South and East.

WRITE TO-DAY TO

ROSEMONT FARM,

In the Valley of
the Shenandoah,

Berryville, Clarke County, Va.

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BILTMORE, N. C.

We Have Become Headquarters for Everything We Breed.

BILTMORE JERSEYS.—The American home of the Great Golden Lads—a family that has produced great milkers, with the best udders and show-yard records that the world has ever seen. Our bulls are out of dams owned and tested in the Biltmore Herds, and buyers can get as near to a certainty as is possible. Large, 52 week milk and butter records a specialty. Over four hundred in five different herds to select from.

BILTMORE BERKSHIRES.—No herd in the world has made as good a record. All the great Champions of England and America have either been in service or bred here. Our yearly offerings at unreserved auction are eagerly taken at nearly double the price of all previous records. The most successful herds all over the States are using a Biltmore foundation.

BILTMORE POULTRY.—Only the UTILITY breeds. Barred and White Plymouth Rocks, White and Golden Wyandottes, Brown and White Leghorns, Bronze Turkeys, Pekin Ducks. Over 50 yards of prize winners. Extra size, fine type, from fixed strains, and more prizes won at the leading shows than all competitors together.

Also a small kennel of extra choice, Rough coated imported Scotch Collies.

CUTAWAYS.

This is the title of a neat pamphlet issued by the Cutaway Harrow Co., Higganum, Conn. A full description of their numerous sizes and styles of Cutaway Harrows and grass-making tools will be found in the pamphlet, and interested parties are requested to send for it. This company has an ad. in another column, to which we invite attention.

BANK OF RICHMOND.

We invite the attention of our readers to the ad. of the Bank of Richmond to be found on another page. This concern has the largest capital of any bank in the South Atlantic States, and is doing a splendid business.

It solicits the accounts of farmers and country merchants generally, and will allow 3 per cent. interest on all time deposits.



A PREVENTER OF CRUELTY.

It is not inhuman to deprive cattle of their horns, and although it may cause a few seconds' pain, as pulling a tooth at the time of operation, still when done with a Keystone Dehorner neither cow nor steer seem to notice the change. The milker will give her usual quality and quantity with scarce an interruption. The extra gain from dehorning in a herd of cows or steers will in a short time pay for a machine.

The Keystone Dehorner is a powerful instrument, simple in operation, easily understood. It consists of two knives set in two parallel slots, whose movements are controlled by two handles. The machine when open looks like an inverted "V," and is three feet eight inches long. The cutting knives have four edges (two on each), and when forced together around the base of the horn these four exceedingly sharp edges cut off the horn clean and square, without haggling or mutilating the tender muscles or soft parts near the horn. The leverage is such that one equals the strength of forty-eight men on the knives when cutting. Dr. Axford, the veterinarian, says: "The Keystone shears them off like cutting cheese."

Mr. M. T. Phillips, Pomeroy, Pa., the maker of the Keystone Dehorner, has published an excellent treatise on dehorning. This booklet ought to be in the hands of every owner of cattle. It will be sent free to any one mentioning this paper in writing to Mr. Phillips, at Pomeroy, Pa.

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**NO LINIMENT WAS EVER
MADE THAT EQUALS**

**SLOAN'S
LINIMENT**

**FOR HORSES AND OTHER
STOCK AND ALL FAMILY USES**

It Kills Pain and Kills Germs

SPRING LITTERS.

We have now coming ready for shipment seven litters of

LARGE YORKSHIRE PIGS

All recent experiments place this breed in front, as the best and most profitable bacon hog. They will raise 40 per cent more pigs and they will grow faster and make more pork in a given time than any other breed.

Also **BULLS, YOUNG COWS** and **HEIFERS** from our great **JERSEY COWS.**

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GRAY'S BIG CHIEF, 57077.

I have a limited number of Pigs by my fine Boars, Gray's Big Chief, 57077, and Victor G. 5707, and can furnish pairs not kin or related to those previously purchased. Young Boars and Sows of all ages. Send to headquarters and get the best from the oldest and largest herd of Poland-Chinas in this State at one-half Western prices Address **J. B. GRAY, Fredericksburg, Va.**

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Pigs from registered stock, 8 weeks old, \$5.00. A few nice **POLAND CHINA** Boars ready for service, for \$10 to \$15.

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LARGE HERD OF FASHIONABLY BRED REGISTERED ANIMALS, INCLUDING COWS IN THE ADVANCED REGISTRY. HERD HEADED BY THE BRILLIANTLY BRED IMPORTED BULL,

TOP NOTCH No. 9023.

The Dam of this Bull, Imported **ITCHEN BEDA**, took 1st prize at the "Park Royal" Show in England in 1902, and her daughter **ITCHEN BEDA II**, took the same honors in 1904: further, Imported **TOP NOTCH'S** Dam, **ITCHEN BEDA**, entered the official advanced Registry of the American Guernsey Cattle Club this year with a record **FOR THE YEAR** of 10642.10 lbs. of milk; 548.70 lbs. of butter fat, equivalent to 640.15 lbs. of butter.

The Pedigree of Imported **TOP NOTCH**, with some of the achievements and prizes won in the direct line of his ancestry, are given below:

TOP NOTCH, 9023, bred by Sir Henry Tichborne, of England, was sired by Rival, 1343 E, and is out of imp. Itchen Beda, 15627. His father, Rival, by Rival of Mont March, 1164, P. S., out of Clatford Gentle, 4746, E. (first prize English Royal, B. & W. E. and Royal C., 1900). His mother, Itchen Beda, 15627 (see record above); she by Loyal of Hinguets, 978, P. S. (first prize, 1896, second prize, 1898); sire of Itchen Lady, Hayes Lilly du Preel. His extended pedigree is impossible in this space, but will be furnished if desired. It goes back to winners of the Queen's prizes, as well as to members of her late Majesty's Prize Herd.

MORVEN PARK is situated in Loudoun County, Virginia, and because of its climate and soil is peculiarly adapted to the production of the highest class of animal life, and particularly to supply the needs of Southern breeders of pedigreed cattle.

REGISTERED and **TUBERCULIN TESTED** animals for sale, including a fine lot of **BULL CALVES** at reasonable prices.

For further particulars, Address

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LEESBURG, LOUDOUN CO., VA.

NOTES FROM MONTANA.

The little town of Harlem is a great hay centre. It has about 20,000 acres under irrigation, and practically the entire acreage is in hay, the splendid blue joint grass, yielding from two to three and a half tons per acre. This hay is being sold in the stack this year for \$10 a ton, so that many farmers will have a good bank account. Much of the hay is baled and shipped to adjacent towns, where it is winter fed to sheep and cattle for Eastern markets. A single pile of baled hay near the station contains two thousand tons.

At this point is situated the Fort Belknap Indian Reservation, Major W. R. Logan, Agent. The Government has provided the Gros Ventres and Assiniboine Indians here located with a \$40,000 irrigation canal, and in this case, at least, irrigation seems to be solving the Indian problem. Each adult has 40 acres of watered land, and the right in addition to range his cattle and ponies over the reservation, comprising 570,000 acres, and entirely fenced. The Indians own their stock, pay for and put up their fences, buy their tents, blankets, and, in fact, every necessity the same as anybody would, the agent simply acting as selling agent, with goods furnished at government cost, plus freight. There are some 1,300 Indians, and instead of over a thousand of them being supported by government rations, within the last two years all but about one hundred of the old Indians have become self-supporting. Major Logan tells me that the Indians are better off, and probably more contented and happier than they ever were under wild conditions. The men are natural herdsmen and fine riders. The women tan cowhide as soft as buckskin and make moccasins of it, decorating it with beadwork. They also tan young steer hides with the hair on, making handsome rugs. With the cold Montana winters, the steer's coat becomes a thick, fluffy fur. They also make warm mittens with "the fur inside." like Hiawatha's.

Instead of burying their dead, the Indians place them upon high hills overlooking the valley. Where possible, they put the body in a box or case, otherwise they simply tie it up in the dead man's blanket along with his personal belongings—knives, belts, etc., and lay it on the ground in these family cemeteries. I passed five or six of these in a short drive across the reservation. Some of the blankets and coverings had rolled away and skulls and bones were exposed, bleaching white.

This reservation will ultimately be opened to settlement. As the Indians become expert farmers, sufficient lands will be allotted to them—their pick of the reservation—enough for their

Lehman's



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Heaters.

250,000 IN USE

IF YOU ARE LOOKING FOR THE BEST

Carriage and Sleigh Heater USE a celebrated
LEHMAN HEATER.

They are universally known and recognized as the STANDARD carriage, wagon and sleigh heater. 250,000 LEHMAN HEATERS are in actual use; they burn LEHMAN COAL, from which there is no smoke, smell nor danger of fire, and can be operated at a cost of two cents per day.

LEHMAN HEATERS are in use by Horsemen, Farmers and the Medical Profession everywhere. Have you one?

They are for sale by first-class carriage, harness and hardware dealers. Write for booklet telling more about them, mentioning Southern Planter.

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J. W. ERRINGER, Gen. West. Sales Agent, 45 E. Congress St., Chicago.

Beware of imitations. If you desire the STANDARD, ORIGINAL and BEST, buy LEHMAN'S. Refuse substitutes.

FOR SALE.

10 Registered Jersey Heifers

Due to calve this fall and winter.

Several Registered HEIFER CALVES, four months old, at \$25 each, if taken this month, and a few BULL CALVES at farmers' prices.

Also several GUERNSEY BULL CALVES, BERKSHIRE BOARS, SOWS and PIGS.

Two grand guard Dogs (Danes), 6 months old, at \$20 each.

M. B. ROWE & CO., Fredericksburg, Va.

WERTZ' NURSERIES.

In placing their ad. for the season, the Wertz Nurseries take occasion to advise us that their stock is now planted on new land, which has never before had trees upon it. They are, therefore, in a position to furnish stock absolutely free from disease and first class in every respect. Prices are ranging somewhat higher this season, but this nursery will fill all orders at their last catalogue prices as long as such stock lasts.

A FINE Jersey Bull

for sale. 2 years old and registered; also 1 yearling and 1 this year's bull calf, entitled to registry. J. B. JOHNSON, Clover Hill Farm, Manassas, Va.

THE WOODSIDE HERD
FOR SALE; 2 grandly bred

JERSEY BULLS,

1 year old. For prices and description, address,

DAVID ROBERTS, Moorestown, N. J.

Swift Creek Stock and Dairy Farm

Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS AND HEIFERS.

None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 4 to 6 months old, \$25; Heifers, same age, \$25. POLAND CHINA PIGS, \$5 each. Send check and get what you want.



T. P. BRASWELL, Prop., Battleboro, N. C.

farming and stock grazing, and the balance will be thrown open.

A number of squaw men are found on the reservation, white men who have married Indians, and thus are allowed to live on the reservation through their wives' rights.

These Gros Ventres and Assiniboine Indians are honest, said the reservation doctor, C. L. Woods, to me. They will steal absolutely nothing unless it be a picket rope, and this is a failing of all Indians. There is no more use trying to keep an Indian from taking a picket rope than there is trying to make a darkey keep his hands off a watermelon. They are pretty good workers, too.

I asked one young Indian, whose broncho was dancing around with him as though there was a burr under the saddle, if there were deer in the mountains. Oh, yes, he answered, in good English; but I am too busy to go and hunt them.

The trials of the beef consumer of the East are not found in this stock country. Little country hotels, corresponding to the Eastern inn, where the enterprising cook can be heard half an hour before meals vigorously pounding the steak, furnish porterhouse and tenderloins which melt in your mouth, tender and juicy—a dream of luxury and plutocracy.

I was invited to a cattle round-up by a man who is the head of a big live stock company. He has just leased 275,000 acres from the Canadian Government at one and a quarter cents an acre annually. This is not so ridiculously cheap as it seems when it is learned that it takes 40 acres to support a steer. The intention of the company is to winter feed the tender yearlings, and let the herd run loose and shift for itself during the year, in this northern climate, the most cruel and inhuman practice imaginable. The Montana and Canadian stockman who carries his ten or twenty thousand herd without providing winter shelter and feed in this rigorous and snowy climate is a brute. He figures himself most lucky if he gets off with ten or fifteen per cent. loss from starvation and freezing. Cattle cannot paw, and in case of heavy snow and blizzards, with the mercury 30 and 40 degrees below zero (as it goes every year), they gradually starve and then freeze to death. Even those which pull through and live suffer terribly—the most wholesale and wanton cruelty in the United States. Pastoral life in Montana, Wyoming and other cold States, as practiced by the big stockmen, who are too unthrifty to irrigate some land and raise hay for winter feed, is an avocation to damn a man's soul for eternity. May the day come speedily when this class of stock growing shall be driven out by the small

FREE! FREE!

"HOGOLOGY"

Latest Revised Edition.

There is nothing so cheap as something valuable, that is yours for the asking, and that will make and save you hundreds of dollars in time. You WILL MAKE NO MISTAKE in getting a copy of "Hogology" at once and following the advice given therein. It will be sent FREE if you mention Southern Planter when asking for it.

\$1,000 Reward

if this is not the best hog book out. It was the first book of the kind ever issued for gratuitous distribution, the first edition having issued more than 20 years ago, and it is the only book of the kind devoted exclusively to the hog, and written by a veterinary and swine specialist. The last edition is just from the printer, and is down to date, practical and profitable hog-raising as found in an experience of more than 30 years.

I PAY FOR ALL HOGS THAT DIE

when my Remedy is fed as a preventive. Full particulars regarding this insurance proposition in "Hogology." It is the oldest hog remedy on the market, as well as the most successful, and is used by thousands of the leading breeders and feeders throughout the hog-raising world.

Twenty-five pound can, \$12.50; 12½ lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

JOS. HAAS, V. S., Indianapolis, Ind.



POLAND CHINAS

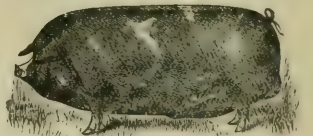
I have now for sale a choice lot of pigs, boars ready for service, and bred sows. Every hog or pig in this offering is either registered or eligible to registry and most of them are closely related to such hogs or Ideal Sunshine, Great Chief Tecumseh, Royal Racket and Anderson's Model. All stock guaranteed as represented or may be returned at my expense. Also a few Short Horn Calves. Farmers prices

J. F. DURREITE, Birdwood, Albemarle Co., Va.

Registered

Poland Chinas.

Some choice pigs, beauties of the best blood this country affords. Also some fine boars ready for service. Stock guaranteed as represented. Prices low for such quality of stock. W. M. JONES, Crofton, Va.



ORGANIZED 1832.

ASSETS, \$932,050.00.

Virginia Fire and Marine Insurance Company, of Richmond, Va.

Insures Against Fire and Lightning.

All descriptions of property in country and town, private or public, insured at fair rates, on accommodating terms.

AGENCIES IN EVERY TOWN AND COUNTY.

W. H. PALMER, President.

W. H. MCCARTHY, Secretary.

CHARTERED 1870.

Merchants National Bank,

OF RICHMOND, VIRGINIA.

Capital,	-	-	-	-	\$200,000.00.
Surplus,	-	-	-	-	\$500,000.00.
Undivided Profits,	-	-	-	-	\$171,000.00.

Depository of the United States, State of Virginia, City of Richmond.

Being the largest depository for banks between Baltimore and New Orleans, we offer superior facilities for direct and quick collections. Accounts solicited.

JOHN P. BRANCH, Pres. JOHN K. BRANCH, Vice-Pres. JOHN F. GLENN, Cashier.
Assistant Cashiers: J. R. PERDUE, THOS. B. MCADAMS, GEO. H. KEEBEE.

Three Per Cent. Interest Allowed in Savings Department.



ANGORA BUCKS

We offer the grandest lot of kid bucks in the South for \$15.00 each. You couldn't pick Angoras of the same class out of a herd in the West for that figure. We also have a FEW YEARLINGS to 3 YEARS OLD for \$18.00 each. (40) FORTY BUCKS TO PICK FROM. The Times Dispatch of August 28th (Sunday Issue) says of our goats: "This ranch will become one of the largest of its kind east of the Mississippi. Their line of bucks is descended from early importations from Turkey, while their California bred bucks are as fine as any in the land. The Mohair sheared from these bucks is of the \$1.00 to \$2.00 per lb. variety and their Angora does are unsurpassed." **Send us your order or come to see us**

"DIAMOND V" ANGORA RANCH, Rock Castle, Virginia.

farmer, who runs his animals on the open range in the warm weather, the while irrigating his alfalfa fields to supply a nutritious and profitable winter feed.

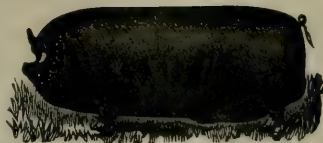
I have suspended writing to go out and help load a couple of cars of horses. The government regulates the shipment of live stock by water, providing for its comfort and against overcrowding; it should likewise oversee the shipment of live stock by railroad. I assisted in the loading of two carloads of horses, mares and colts. The first load consisted of 40 animals crowded into a 36 foot car. The animals were pushed and beaten into the limited space until a number of the colts and weaker animals were down and all were packed in like sardines. The next car, 40 feet, was loaded with only 29 animals. Quite a difference! The shipper was Mr. French, trader at the Fort Belknap Indian Agency. The other man was apparently ashamed to mention his name. After Mr. French had loaded his stock, amply provided with feed to carry them through, the unknown was prevailed upon to take out some of his stock. The car was therefore willingly pushed back by the neighbors, though it was near midnight, and after much trouble six horses were gotten out, though even this did not give the remaining animals sufficient room to warrant them comfortable transportation; nevertheless it probably prevented the crushing and smothering of several colts and the breaking of the legs of as many horses.

But such crowding of stock should not be practiced. The cry of panic-stricken horses, jammed against one another and being trodden down by

We **positively guarantee** to breed and ship the **VERY BEST** strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for **LESS MONEY** than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

Proprietor of the Bridle Creek Stock Farm, Warrenton, N. C.



BLUE-BLOODED BERKSHIRES.

The grand brood sows **GEORGIA'S HIGHCLERE**, No. 66136, and **CARAMEL**, No. 64085, have farrowed; these pigs were sired by the great boar, **COLUMBIA**, No. 60527. **CARAMEL**, 2d, No. 75516, has farrowed a litter by a son of the celebrated boar, **MANOR FAVORITE**. The above were all large litters of very fine pigs.

The head of this herd is **COLUMBIA**, No. 60527, an imported son of the celebrated **FIRST CATCH E.** and he is practically a full brother to the sire of the celebrated **Manor Favorite**. **Columbia**, we think, is one of the best boars in the United States.

Georgia's Highclere is a grand sow, and would be very hard to beat if in show ring condition: she is of the best **Highclere** breeding; **Caramel** is an imported granddaughter of the celebrated **Loyal Berks**. She is an extra fine brood sow; **Caramel** 2d was imported in her dam. She has 37 1/2 per cent. of the blood of **Loyal Berks**.

Here is the place to get the blood of the most fashionably bred **Berkshire** families—viz., the **Highcleres**, **First Catch E.**, **Loyal Berks** and **Manor Favorite**. For further information and prices address **A. H. HODGSON**, Athens, Ga., or **F. M. HODGSON**, West End, Va.



HILL TOP STOCK FARM.

Having decided to close out my thoroughbred stock of

Berkshire Hogs

I will sell at great bargain, if sold at once, my entire herd. I have several first class bred sows, as many boars and a number of pigs, twelve weeks old, weighing 100 pounds.

Write immediately if you want any of them. This advertisement will appear but once.

S. BROWN ALLEN, Staunton, Va.

When corresponding with our advertisers always mention the
Southern Planter.

EXTRAORDINARY BERKSHIRE SALE

RARE OPPORTUNITY TO ACQUIRE Foundation Stock!

DUNTREATH STOCK FARM, to avoid inbreeding and to make room for other stock, offers to breeders the following choice Animals:

"**HIGHLERE LUSTRE CARLISLE**," a young Boar, farrowed June 4th 1903, and as finely bred as any Berkshire living, will be a grand addition to any herd. Registered in records of both the American and National Associations. For description and pedigree see page 46, center column, January issue of **THE SOUTHERN PLANTER**. Price: \$150.00 crated, f. o. b. Richmond.

ALSO, four choice young brood sows: "Criselda III," "Mona Del Rey," "Lady Salada of Duntreath" and "River King's Matchless," all splendid animals of the very best blood lines, and tested, and all registered in Records of National Association. Will sell open, or bred to one of Duntreath Herd Boars. Price: Each \$40.00 open or \$60.00 bred, crated, f. o. b. Richmond.

And Also, Eleven choice Boar Pigs (no sows), about four months old, at \$10.00 each, crated, f. o. b. Richmond.

DUNTREATH STOCK FARM, RICHMOND, VIRGINIA.

the stronger ones is a terrifying sound, which carries an almost human appeal.

GUY E. MITCHELL.

VALUE OF CONFEDERATE MONEY.

That Confederate money was never taken seriously is well illustrated in the following story told by the late General John B. Gordon, and which, as far as can be ascertained, has never appeared in print:

One day during a temporary cessation of hostilities between the opposing forces a tall, strapping Yankee rode into the Confederate camp on a sorry-looking old horse to effect a trade for some tobacco.

"Hullo, Yank!" hailed one of a number of Confederate soldiers lolling about on the grass in front of a tent, "that's a right smart horse youall got there."

"Think so?" returned the Yank.

"Yes; what'll you take for him?"

"Oh, I don't know."

"Well, I'll give you seven thousand dollars for him," bantered the Confederate.

"You go to blazes!" indignantly returned the Yank; "I've just paid ten thousand dollars of your money to have him curried."—John Ed. Quinn, in October Lippincott's.

Mr. Murray Boocock, of Castalia Farm, writes us that he has sold Marquis of Salisbury 25th, the splendid young Hereford bull advertised in our last issue. He does not, we are glad to say, leave the State, having been sold into Essex county, Va.

NO KINSHIP.

Congressman James Hamilton Lewis, of Chicago, is the politest man in the country. When in Seattle, one night after making a fiery speech he was coming down the aisle bowing right and left when he discovered an elderly colored woman. "Why good evening, mammy," the Colonel said.

His speech hadn't pleased her, so she replied: "Look here, sah, I is not yo' mammy; you ain't nothin' but jes' poor white trash!"—October Woman's Home Companion.



THE - OAKS - STOCK - FARM.

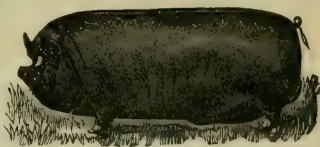
A. W. HARMAN, Jr., Treasurer State of Virginia, Prop. Richmond, Va.

We breed and ship the FINEST STRAINS of

Large ENGLISH BERKSHIRES

for less money than any firm in the South, quality considered. Every pig shipped possesses individual merit. Pedigree furnished with all stock. Kill or sell your scrubs and buy hogs that will pay. For prices and description, address ALEX. HARMAN, Mgr., Lexington, Va.

25 Tons of Choice Timothy Hay For Sale.



Large English Berkshires.

BOARS ready for service.

Pigs ready to ship.

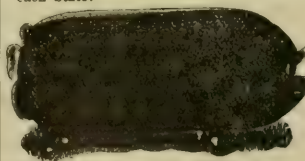
Bred Gilts.

Forest Home Farm,

Purcellville, Va.

BERKSHIRES! * * * BERKSHIRES!

The following up-to-date stockmen think my **ROYAL BERKSHIRES** the finest the world can show. I could print thousands of the same opinion, but I take only one from each State:



P. H. Rudd, Mariners Harbor, N. Y.; Col. F. C. Goldborough, Easton, Md.; J. M. Venable, Farmville, Va.; Edgar Long, Graham, N. C.; John C. McAfee, Chester, S. C.; Dr. S. W. Fain, Dandridge, Tenn.; President Bowdrie Philinz, Augusta, Ga.; R. C. McKinney, Bassinger, Fla.; General Thos. T. Munford, Uniontown, Ala.; W. W. Cornelius, Blue Springs, Miss.; J. M. Gann, Varnada, La.; B. P. Van Horn, Toyah, Texas; D. C. Lester, Hatfield, Ark.

Take no risk; confer with these people, and order direct from the veteran breeder.

THOS. S. WHITE, Fassiern Stock Farm, Lexington, Virginia.

Five car loads bright Timothy Hay for sale, cheap.

TAXATION WITHOUT REPRESENTATION.

In the old days in Vermont many of the towns were without facilities for carrying their dead from their earthly habitations to the burying-ground. Therefore the good people went from house to house soliciting contributions for the purchase of a town hearse. It was a difficult matter to raise the necessary forty or fifty dollars, but in the town of R. it was finally accomplished. At each recurring funeral different farmers loaned horses to draw the hearse.

In the course of time the old hearse came to the end of its labors, even as those whom it had carried to the little burying-ground had come to the end of their labors. The subscription committee made a second canvass of the town, and visited an old farmer who had contributed towards the first hearse and laid before him the necessity of a second hearse. Old Graybeard regarded them narrowly, and then said with determination:

"Me and my family ain't never had no use of t'other hearse, and I don't calcerlate ter pay out a dern cent more."—Florence Gilman McCollom, in October Lippincott's.

SAVES 40 PER CENT. OF FEED
BILL

Theological Seminary, Va.,
September 5, 1904.

Jos. Haas, V. S., Indianapolis, Ind.,
Dear Sir,—Please find enclosed re-
mittance for which kindly send me
more of your remedy. I have been
feeding it according to directions for
the last six months, and find it does
all you claim. There is cholera in my
neighborhood, but my hogs have not
been affected, and I do not fear trouble
as long as I feed your remedy and fol-
low your instructions. Since begin-
ning to feed your remedy my feed bill
has been 40 per cent. less than for-
merly and my hogs look much better.

Yours truly,
S. COOPER DAWSON.

CATTLE STANCHIONS.

In extending his advertisement for another term, Mr. Wallace B. Crumb, Forestville, Conn., sends us a descriptive pamphlet of the Warriner Patent Chain Hanging Cattle Stanchion. This neat and useful device should appeal to all dairymen or farmers who have cattle to house. Look up the ad. elsewhere and send for a copy of the pamphlet.

THE QUANTITY HE WANTED.

An Irishman, meeting another one holiday, invited him to the nearest saloon to have a drink.

"What'll ye have, Jim?" said the host.

"I don't know. What are ye going to take?"

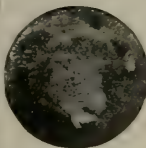
"All right," said the other, "give me a pail too."—October Lippincott's.

— URY STOCK FARM HERD OF —

HOLSTEIN - FRIESIANS

DE KOL 2D BUTTER BOY 3D No. 2 heads our herd; his breeding and individual excellence are second to none. A few COWS, YOUNG BULLS and HEIFERS from our best cows, for sale. All the leading families represented.

ENGLISH BERKSHIRE pigs by such Boars as MANOR FAITHFUL, Imp.; wt. 1100 lbs.; FANCY DUKE, a double grandson of LOYAL BERKS; ESAU PRINCESS OF FILSTON, by ESAU, Imp. THOS. FASSITT & SONS, Sylmar, Md.



EDGEWOOD STOCK FARM DORSETSHIRE
DORSETSHIRE

We have sold all the Dorsets offered. We wish to thank our friends and patrons for their kind words. Our one object is to please, and we strive to make our flock better every year. Our Ewes this summer were selected by one of us from the best English flocks, and they are bred to the best rams in England. We will book your orders now for fall Lambs from these and other Ewes.

J. D. and H. B. ARBUCKLE, Maxwelton, Greenbrier, Co., W. Va.

CISMONT DORSET S

CISMONT STOCK FARM offers well developed young
Dorsets of the best blood of England and America.

Prices Reasonable.

6. S. LINDENKOHL, Keswick, Albemarle Co., Va.

Bacon Hall Farm.

Hereford Cattle :- Berkshire Hogs

REGISTERED-ALL AGES.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

E. M. GILLET & SON, - Glencoe, Maryland.

Registered • Herefords,

Herd headed by the Grand Champion

PRINCE RUPERT, 79539.

Young stock for sale. Inquiries
cheerfully answered.

**EDW. G. BUTLER, Annefield Farms,
Berryville, Virginia.**



PRINCE RUPERT. 79689

...Strawberry Plants...

All the standard sorts, from earliest to latest, after Sept. 1st, at 50 cts. per 100, or \$3 per 1,000. Catalogue on application.

J. B. WATKINS & BRO., - Hallsboro, Virginia.

SOME MORE HEREFORD TALK.

When I made up mind to raise pure bred cattle, I could have just as easily taken up some other breed instead of Herefords. But such a course would have been against my judgment as to the kind of cattle this section needed. In I have backed my opinion, with and more convinced that I am what suits their needs and their hoof can beat a Hereford finding is one reason why every South bred Hereford Bull to breed to have to sell his calves at \$5. I BURY Bulls will stamp a "Salisbury frame" (one on which of beef) to almost every calf. If supply what the market wants, marbled sort found only on a blocky, velvet skin Hereford



IMPORTED SALISBURY 76059.

My present offering of BULLS,

COWS and HEIFERS, bred and unbred, is the best that I ever had, and cannot be beaten on the Continent. If interested parties will come to Castalia and inspect them, they will be astonished at the quality of stock I am selling for such low prices. Come or write at once, as you may not have another such opportunity for years.

establishing the Castalia Herd, my time and money. I am more selling Southern farmers exactly thin pastures. No animal on his own living in the field. This ern farmer should have a pure his native cows. You wouldn't undertake to say my SALISBURY Face" on and impart a you can put from 12 to 1500 lbs. you wish to raise beef, you must and that is the nice, mellow, smooth, straight back, deep body, carcass.

BULL CALVES, YEARLINGS,

MURRAY BOOCOCK, Castalia, Keswick, Alb. Co., Va.

EGGS FOR HATCHING

The Imperial Fruit and Poultry Farm

Is now booking orders for eggs for hatching from strictly pure, high-class poultry, at \$1.00 for 15 eggs, except duck eggs, which are \$1.00 for 13.

BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS,
SINGLE COMB WHITE AND S. C. BROWN LEGHORNS,
SILVER LACED AND WHITE WYANDOTTE,
MAMMOTH PEKIN DUCKS.

Satisfaction Guaranteed. Write your name and address plainly.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

RETORT COURTEOUS.

Pett Ridge, the London journalist and author, is of the opinion that the keenest repartee, after all, is that half-unconscious sort which springs so wholeheartedly from the masses, and here is a story he tells in support of his theory:

A woman who had been selling fish entered an omnibus with the empty basket on her arm still giving forth an unmistakable odor of the finny folk it had carried. She took a vacant seat next a young "gentleman," who drew his coat-tails away and plainly showed his disgust.

"I s'pose," remarked the woman presently, "that you'd rather there a gentleman sittin' beside you?"

"Yes, I would," was the prompt reply.

There was a moment's pause, and then came, "So would I."—W. J. Price, in October Lippincott's.

THE CEDARS POULTRY & STOCK FARM.

We acknowledge receipt of circulars from the Cedars Poultry & Stock Farm, Midlothian, Va. This farm is a regular advertiser of ours, and breeds only the best in everything.

Jersey cattle, Duroc Jersey Swine, English Setters, Beagle Hounds, Plymouth Rock fowls and Mammoth Bronze Turkeys, all registered and pure bred, are regularly for sale at this farm.

NO CHANCE TO LEARN.

The family was planning at the breakfast table to attend, later in the day, the funeral of a deceased neighbor, but Isabel, aged six, was very much to her distress, to be left at home.

"But I've never been to a funeral," the little girl pleaded. "I want to go to one just dreadfully."

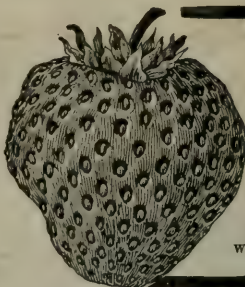
"Never mind, Sis," said the little maid's borthor, consolingly, "perhaps you can go to your own some day."

"Well," flashed Isabel, indignantly, "if I don't have a little practice I shan't know how to behave even at that one."—October Lippincott's.

MR. WHITE AS SUPERINTENDENT.

We are glad to note that Mr. F. B. White, the well known advertising man, has been appointed superintendent of the Incubator Show, which will be held at the World's Fair from October 21st to November 25th. In addition to having long been connected and identified with the poultry interest of the country, Mr. White is president of White's Class Advertising Co., Chicago.

Bessie, inspecting a new arrangement of Nannie's hair, observed: "Nannie, you don't look like yourself with your hair that way. But" (admiringly) "you look better when you don't look like yourself than when you do."—October Lippincott's.



Save Half in Fruit Trees

By Buying Direct from Nursery Without Profit to Agents.

Choicest stock of Fruit Trees in the country. All the large, Improved Peaches affording luscious fruit from May to November. All the superb apples and pears covering the whole year. Mammoth delicious plums, cherries, grapes, figs, asparagus, rhubarb, etc. Largest shippers of **STRAWBERRY PLANTS** in the world.

All trees, etc., delivered FREE. 130 page manual, telling how to grow all kinds of Fruit, Free to buyers.

Write now for catalogue for fall planting. Mention this paper. **CONTINENTAL PLANT CO., Kittrell, N. C.**

..ELMWOOD NURSERIES..

—WE ARE GROWERS AND OFFER A FINE ASSORTMENT OF—

APPLES, PEACHES, PEARs, CHERRIES, PLUMS, APRICOTS, NECTARINES, GRAPEVINES in large assortments, GOOSEBERRIES, CURRANTS, STRAWBERRIES, HORSE-RADISH, ASPARAGUS, DEWBERRIES, and an extra fine lot Raspberries. Splendid assortment ORNAMENTAL and SHADE TREES, ORNAMENTAL SHRUBS and HEDGE PLANTS.

EGGS from B. P. ROCK and BROWN LEGHORN FOWLS at \$1.00 per 13. Also a few pullets and cockerels of these breeds at \$1.00 each for immediate delivery. Write for Catalogue to

J. B. WATKINS & BRO., Hallsboro, Va.

STOCKMEN!

Why don't you kill ticks on your cattle and sheep, lice on all animals, by dipping or washing the animals with a first-class, non-

poisonous tar carbolic creosote dip? And when you purchase, save 20 to 25 per cent. in price by ordering **MINOR'S FLUID** of—

A. L. FRENCH,

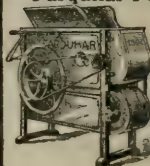
Southern Agent, Byrdville, Va.

Prop. Sunny Home Angus Herd.

WARRANTED ONE OF THE BEST.

FARQUHAR Pea and Bean Threshers

Farquhar Pea Huller No. 1



Hulls all kinds of peas and beans from the pods. Cleans them thoroughly without breaking or cracking. Not an experiment or a cheap machine made just to sell, but a good, solid, substantial, money-making and labor-saving device. Just what every farmer who raises peas or beans, no matter how small the quantity, wants. You cannot afford to be without one. It will more than save you the cost in one season. Thousands of testimonials.

Special discounts to introduce the first machine in each locality.



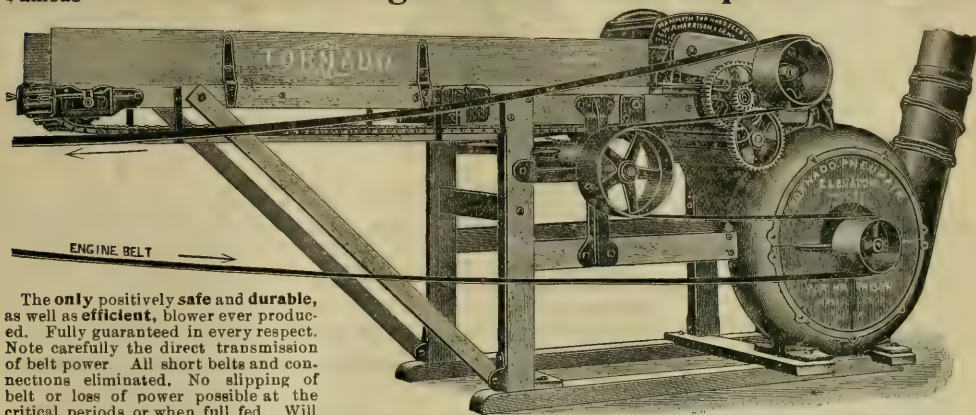
FARQUHAR

Pea Vine Thresher and Shredder No. 5

Can be run with 8 to 15 H.P. engine. Threshes and cleans all kinds of peas and beans from the vines, and shreds the vines. Makes valuable shredded hay and turns the vines into money that would otherwise be wasted. Sheds corn from the ear and shreds the fodder. Only perfect machine made. Don't cut or saw, but shreds the fodder without rough sharp edges to make the cattle's mouth sore. Shredding is done with a double cylinder. Machine is strong, substantial and well-made throughout.

A. B. FARQUHAR CO., Ltd., YORK, PA.

.. The .. Famous **Tornado Ensilage Cutter and Improved Blower**



The only positively safe and durable, as well as efficient, blower ever produced. Fully guaranteed in every respect. Note carefully the direct transmission of belt power. All short belts and connections eliminated. No slipping of belt or loss of power possible at the critical periods or when full fed. Will successfully and satisfactorily elevate to any reasonable height, and do it with the least power of any on the market.

Catalogue and information free for the asking. Ask for it

Manufactured by **W. R. HARRISON & CO. MASSILLON, OHIO.**

The Only Complete Drill.

**Hoe, Disc
or Shoe
Fertilizer
And Plain Drills.**

America's 20th Century Line.

FETZER & CO.,

Capital, \$1,000,000.

Middletown, Ohio, U. S. A.

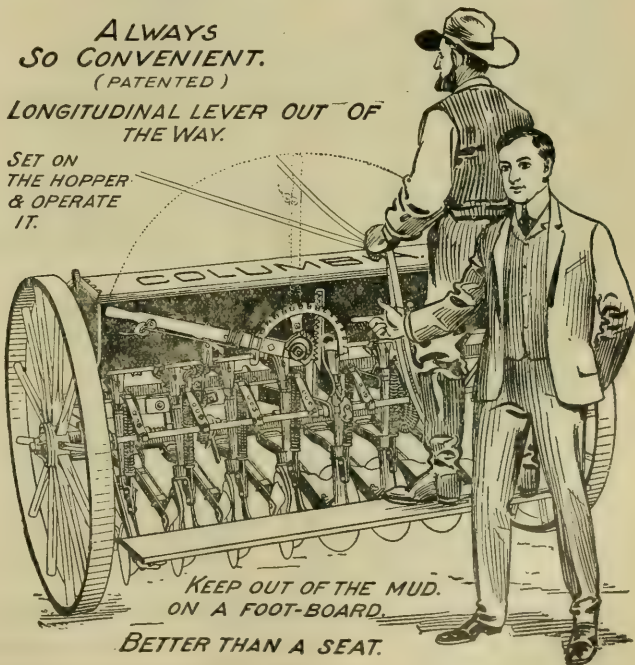
Factory established 1858.

Write for Booklet S.

*ALWAYS
SO CONVENIENT.
(PATENTED)*

*LONGITUDINAL LEVER OUT OF
THE WAY.*

*SET ON
THE HOPPER
& OPERATE
IT.*

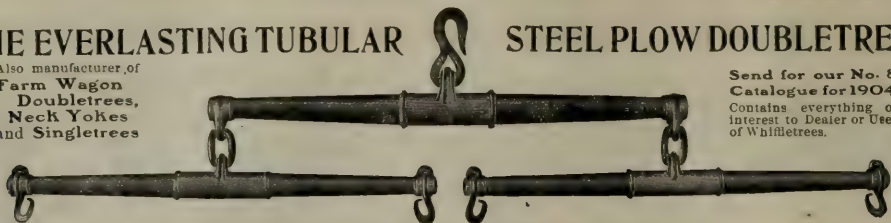


THE EVERLASTING TUBULAR

Also manufacturer of
Farm Wagon
Doubletrees,
Neck Yokes
and Singletrees

STEEL PLOW DOUBLETREES

Send for our No. 8
Catalogue for 1904
Contains everything of
interest to Dealer or User
of Whiffletrees.



PATTERN No. 105 EQUIPPED WITH FORGED TRIMMINGS.

Guaranteed not to break or bend. Furnished with rings or hooks for trace attachment. Sample orders sent to responsible parties on trial.

Pittsburg Tubular Steel Whiffletree Company, ^{SOLE} MANUFACTURERS Pittsburg, Pa.

AN EARLIER GENERATION.

A Russian immigrant of tender age was being registered in a down-town Philadelphia school. The teacher questioned, "What is your name?"

"Katinka," replied the child.

"And your father's name?"

"I never hat one," came the quick response.

"Then tell me your mother's name," again said the teacher, kindly.

"I never hat no mudder neither," answered the little child, seriously.

"I was born off my gran'mudder."—October Lippincott.

THE LEHMAN HEATER.

We take pleasure in calling attention to the ad. of Lehman Bros. in another column. For several seasons this firm has advertised its Lehman Heater, which is a very useful device for heating sleighs and buggies, and can even be used at home with considerable comfort. It will be found to add great comfort and pleasure to a long drive, as it retains its heat for a number of hours and the fuel it burns—Lehman coal—creates neither smoke nor odor, and costs only 2c. an hour. The manufacturers guarantee that there is absolutely no danger from fire in using it. The popularity of the little device is attested by the fact that there are upwards of 25,000 of them now in use.

TOO MANY QUESTIONS.

The fallacy of asking too many questions is generally followed by much embarrassment.

I was stopping at a large hotel, and one day as I came out and took my hat from the hands of the hat-keeper I said to him:

"How do you know that is my hat?"

"I don't know it, suh," said the boy.

"Then why do you give it to me?" I insisted.

"Because," replied the boy, "you gave it to me!"—October Lippincott's.

A SUGGESTION.

Perhaps to mansions in the sky
More folks would read their titles
clear,

If it were not it takes such work
To simply pay the rent down here.

—McLanburgh Wilson, in October Lippincott's.

Richmond, Fredericksburg & Potomac R. R.

AND

Washington Southern Railway



The Double-Track Link Connecting the

Atlantic Coast Line Railroad
Baltimore and Ohio Railroad
Chesapeake and Ohio Railway
Pennsylvania Railroad
Seaboard Air Line Railway
Southern Railway

Between ALL POINTS
Via RICHMOND, VIRGINIA

THE GATEWAY BETWEEN THE NORTH AND THE SOUTH

— FAST MAIL, PASSENGER, EXPRESS AND FREIGHT ROUTE —

— OVER FIFTY MILES OF THE SECOND TRACK ALREADY IN SERVICE —

U. S. Government

Stamp of Approval

On the Work of the Undesirgned.

CONTRACT AWARDED FOR

12 Charter Gasoline Engines,

7 10,000 Gallon Tanks and Towers,

12 Artesian Wells,

9 Miles of Pipe.

All to be installed in
thirty days on the old
Manassas (Bull Run)
battlefield.

If we can satisfy Uncle Sam we can satisfy you.

SYDNOR PUMP AND WELL CO., Incorporated,

Box 949, RICHMOND, VA.

When corresponding with our advertisers always mention the
SOUTHERN PLANTER.

THISTLE



BRAND

.....LAIDLAW'S.....

Concentrated Tobacco Powder, Sheep Dip and Cattle Wash.

A SURE CURE FOR THE EXTERMINATION OF

Scab and Tick in Sheep.

Lice on Horses and Cattle.

Lice on Hogs.

Mange on Dogs.

Kills all vermin. Allays all irritation. Promotes growth of wool. Makes animal feel well and take on flesh.
ABSOLUTELY NON-POISONOUS.

PRICES: 5-lb. bag, 75c.; 10-lb. bag, \$1.25; 25-lb. bag, \$2.60; 50-lb. bag, \$5.00.

One 50-lb. bag makes 500 gallons Dip for Scab, and 1000 gallons for Tick, etc.

SOLE MANUFACTURERS,

LAIDLAW, MACKILL & CO., Limited, Richmond, Va., U. S. A.

To be Had at all Leading Drug Stores.

Established by
GEO. WATT, 1840.

THE CALL-WATT CO.,

Implements, Machinery and Vehicles.

MANFRED CALL,
Gen'l. Manager.

HAND PRESS

For Hay,
Cotton,
Straw,
Shucks,
etc., etc.



FULL CIRCLE BALING PRESS.



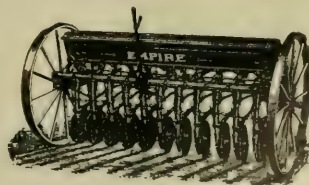
BOY BALING PRESS.



PORTABLE EVAPORATOR,
With Copper or Galvanized Steel Pans.



THREE-ROLL CANE MILL.



DISC AND HOE GRAIN AND FER-
TILIZER DRILLS,
Broadcast Plaster and Fertilizer Distrib-
utors.

Disc Harrows, Field Rollers, Manure Spreaders, Pea Hullers, Farm Wagons (all sizes), Engines, Saw Mills,
Grinding Mills, Plows and Plow Repairs of all kinds, Corn Shellers, Wheat Fans.

We solicit enquiries for anything desired.

13 S. 15th Street, Richmond, VA.

DEPARTMENT OF AGRICULTURE,
DIVISION OF PUBLICATIONS.
Washington D. C., Sept. 15, 1904.
IRRIGATION IN NORTHERN ITALY.

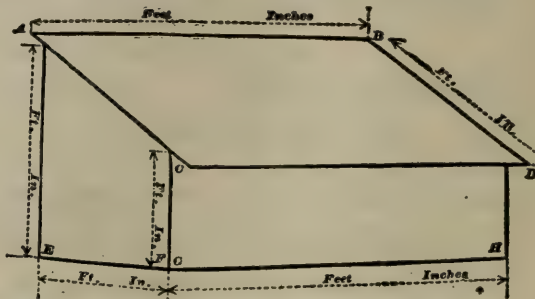
Irrigation has been practiced in this country little more than fifty years, while in Italy it has been practiced for more than five hundred years. It is, therefore, natural that Italian experience should be able to show much of value to American irrigators. For the purpose of determining what could be learned in that country which could be applied to our own problems, Dr. Elwood Mead, Chief of Irrigation and Drainage Investigations of the Office of Experiment Stations, U. S. Department of Agriculture, spent the summer of 1903 in the valley of the Po. A partial report of Dr. Mead's observations has just been issued by the Department of Agriculture as Bulletin 144 of the Office of Experiment Stations. No attempt was made to make this an exhaustive monograph upon irrigation in northern Italy, but the study was made solely from the standpoint of obtaining suggestions for American irrigation practice.

Contrary to a very common opinion, the valley of the Po is not an arid region. The annual rainfall at Milan, the chief city of Lombardy, is more than 40 inches, greater than that of Cincinnati, Ohio, or Omaha, Neb., both of which are situated in regions where irrigation is seldom considered in connection with agriculture. The climate of Lombardy is not different from that of the Mississippi Valley, and the crops raised, with few exceptions, are the same. Notwithstanding this large rainfall and the fact that crops can be successfully raised without irrigation, the plains of Lombardy are a network of canals and drains. To secure the construction of one of these canals, the city of Milan gave a bonus of \$400,000. This canal cost \$6,000,000, or \$37.50 for each acre of land that can be served by it. It supplies water to 8,000 farmers, who pay from one to two dollars per acre per year for water. Some of this land supports as many as 800 people per square mile, and has increased in value since the building of the canal from 60 to 100 per cent., land which formerly sold for \$100 being worth from \$160 to \$200 per acre.

Under the Vettabbia Canal which uses the sewerage from Milan, meadows yield an annual crop worth \$300 per acre. Some of the fields have been used for meadows continuously for 700 years. Annual rentals for these lands are more than \$25 per acre. Sewerage has been used on these fields for centuries without injury to the lands or to the healthfulness of the community. This great rise in land values and increase in productivity of lands, due to irrigation, in a region with a rainfall equal to that of the southern half of the Mississippi Valley and a climate not more favorable to crop production, leads to the conclusion that in irrigation this section has a means of at

ROOFING OF ALL KINDS.

Painted Corrugated Roofing, Painted V. Crimp Roofing, Roofing Tin in boxes or rolls, Tarred Roofing Felt, Perfected Granite Roofing.



Send us the DIMENSIONS OF YOUR ROOF, stating KIND OF ROOFING wanted, and we will quote you on sufficient quantity to cover it.

You can ADD YEARS to the life of your roof by painting it with our

Magnet Red Roofing Paint.

1 gallon will cover 2½ squares. Can furnish in any size package, 1 gallon up. Only the very HIGHEST GRADE material enters into the manufacture of this paint. Write for prices.

We also carry a complete stock of Conductor Pipe and Gutter, Solders and Metals; Galvanized and Black Sheet Iron, etc.

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THROUGH ITS CONNECTIONS....

THE BIG FOUR SYSTEM, from Chicago, St. Louis, Peoria, Indianapolis, Sandusky and Cleveland;

THE OHIO CENTRAL LINES, from Toledo and Columbus;

THE CINCINNATI, HAMILTON & DAYTON, from Detroit, Toledo, Lima and Dayton—

FORMS THE MOST DIRECT And from Five to Twelve Hours the Quickest **ROUTE.**

TO STAUNTON, LYNCHBURG, CHARLOTTESVILLE, RICHMOND, PETERSBURG, NORFOLK, And Principal Virginia Points.

H. W. FULLER, Gen. Pass. Agt. C. & O. Ry., Washington, D. C.



SAFE, PRIVATE, Letters, Deeds, Valuables, Jewels, Trinkets.

FREE! This Magnificent Doubly Reinforced STEEL SAFETY BOX. The kind that Bankers use Locks with a Most Intricate Key.

Built for Strength, yet a Work of Art.

Black and Maroon, Trimmed in Gold. Highly Polished Lock Face.

Large and Roomy. A Luxury to any one. An actual necessity to every man and woman, boy and girl.

It appeals with great force to every one who wishes their Valuables safely Locked away.

SECURE AS A BANK VAULT.

Contents as safe and private as a buried treasure, hidden from the eyes of all but the rightful owner.

Contents at our expense to any Address in the United States or Canada.

Send us your name and we will send you, with charges prepaid, twenty boxes of Brauer's Ivory White Baby Cream, the finest and most pleasant article in existence for keeping the skin of infants and children in absolutely perfect condition. Sell these twenty packages for us at only ten cents per package and remit us the two dollars and we will at once send you this elegant strong steel safety box, something that you really need badly. We want your help in introducing this excellent Baby Cream into every home, and we are giving this costly premium so that our liberal dealing will secure your hearty co-operation. We assure you that this safety box is a high-grade beautifully finished and thoroughly serviceable article.

The Baby Cream is a fine quick seller. Put up in large attractive boxes; delicately medicated; highly perfumed; thoroughly anti-septic; rich snowy white. You have no explaining to do. The circular tells all about it and sight of the salve sells it. Cures rough skin, chapped face and hands, chafing, eruptions and irritations; cuts, burns, scalds and bruises; nettle-rash, prickly-heat, fever sores and other skin troubles, gives instant relief. There is not a mother but would welcome a nice clean pure white salve that will instantly relieve her little one and quickly and completely cure it of all such troubles. Mothers use it on themselves. The girls do, too. It keeps their skin like velvet.

Write to-day. Don't hesitate. The Baby Cream sells on sight. Every mother wants it. Every one wants the Steel Safety Box. You want it, if you need a safe, private place for your valuables and letters. **BRAUER CHEMICAL CO., 426 Postal Building, N. Y.**

least doubling the present yield from its lands.

In Piedmont, which has an annual rainfall of more than 30 inches, or about the same as eastern Nebraska and Kansas, the Italian Government has built nearly a thousand miles of canals and expended about \$20,000,000 for irrigation works. The annual income from the Government canals in this province is nearly \$600,000. Pumping plants have been established to raise the water to lands above the Government canals. One of these was put in at an expense of \$47 per acre for the lands irrigated, in addition to which the farmers are required to pay the annual maintenance expense and \$82 per year for a cubic foot of water per second. Irrigated land supplied by this pumping plant is worth three times as much as unirrigated land adjoining. Under another pumping plant the annual expense to the farmers is \$5.80 per acre, in addition to \$10 per year for a sinking fund, making an annual charge upon the farmers of nearly \$16 per acre. And this also in a region where crops can be raised successfully without irrigation.

The Italian Government disposes of water directly to farmers at retail in some sections, and in others sells it to co-operative associations of farmers. One such association has 14,000 members operates 9,600 miles of ditches, has 266 miles of telephone and telegraph lines, supplies water to 141,000 acres, and does an annual business of \$600,000. Eighty water masters are employed by the association to distribute the water to its members. The farmers in this association pay from \$1.60 to \$9 per acre per year for water, according to the distances of their land from the main canal and the crops raised.

In addition to giving information as to the organization of the industry in Italy, the bulletin describes the principal canals of Lombardy and Pied-

Spring Flexible Disc Harrow

Only Harrow in the world with independent adjustable spring pressure upon inner ends of disc gangs. Any amount of pressure thrown on these inner ends by foot. Ball-bearing. Works uneven ground. All sizes, at proportionate prices.



Seasonable Implements of the latest style, always up-to-date. Possibly you are now or will soon need a Corn Sheller, Feed Cutter, Disc Plow. You can get our Catalogue for the asking.

OUR PRICES MUST BE RIGHT.

NORFOLK FARM SUPPLY CO.

41-51 Union Street, NORFOLK, VA.

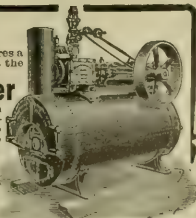
FOR THE PLANTER

the Planter, the Farmer, the Miller, the Sawyer, or Anybody Else who desires a highly efficient power which will require little space, nothing quite equals the

Leffel Combined Engine and Boiler

It is entirely self-contained. Machinery can be belted to either side of engine shaft. Exceedingly safe. Free from escaping sparks. We make them from 6 up to 40 h. p. Being mounted on skids with engine on top, they are easy to handle and will stand the hardest kind of usage. Great favorites with saw mill owners. We also make other engines in great variety. Write at once for our special book on "Power Economy and Efficiency." It is sent free for the asking.

JAMES LEFFEL & CO., Box 134, SPRINGFIELD, O.
ASHTON STARKE, Southern Sales Agent, RICHMOND, VA.



DON'T BUY GASOLINE ENGINES

all one cylinder engines; revolutionizing gas power. Costs Less to Buy and Less to Run. Quickly, easily started. No vibration. Can be mounted on any wagon at small cost—portable, stationary or traction. Mention this paper. SEND FOR CATALOGUE. THE TEMPLE POWER CO., Mrs. Meagher & 16th St., Chicago, THIS IS OUR FIFTY-FIRST YEAR.

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline engine superior to any other of its kind. This is our FIFTY-FIRST YEAR.

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The following list of papers and periodicals are the most popular ones in this section. We can SAVE YOU MONEY on whatever Journal you wish:

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	Price	With
	Alone.	Planter.
Times-Dispatch, Richmond, Va.....	\$5 00	\$5 00
The Post, Washington, D. C.....	6 00	6 00
The Sun, Baltimore, Md.....	3 00	3 40
Chicago Live Stock World.....	4 00	3 50
News-Leader, Richmond, Va.....	3 00	3 00

TRI-WEEKLY.

The World (thrice-a-week), N. Y....	1 00	1 25
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WEEKLIES.

Harper's Weekly	4 00	4 00
Montgomery Advertiser	1 00	1 00
Nashville American	50	75
Breeder's Gazette	2 00	1 75
Hoard's Dairyman	1 00	1 35
Country Gentleman	1 50	1 75
Religious Herald, Richmond, Va.....	2 00	2 25
Times-Dispatch, Richmond, Va.....	1 00	1 25
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Lippincott's Magazine	2 50	2 50
Harper's Magazine	4 00	4 00
Harper's Bazar	1 00	1 40
Scribner's Magazine	3 00	3 25
Frank Leslie's Magazine	1 00	1 35
Cosmopolitan Magazine	1 00	1 35
Everybody's Magazine	1 00	1 35
Munsey Magazine	1 00	1 35
Strand Magazine	1 25	1 65
McClure's Magazine	1 00	1 35
Argosy Magazine	1 00	1 35
Review of Reviews	2 50	2 75
Poultry Success	1 00	75
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Successful Farming	1 00	75
Southern Fruit Grower	50	35

Where you desire to subscribe to two or more of the publications named, you can arrive at the net subscription price by deducting 50 cents from "our price with the PLANTER." If you desire to subscribe to any other publications not listed here, write us and we will cheerfully quote clubbing or net subscription rates.

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Don't hesitate to write us for any information desired; we will cheerfully answer any correspondence.

We furnish NO SAMPLE COPIES of other periodicals.

Seed House of the South.

RED CLOVER,
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CRIPSON CLOVER,
WHITE CLOVER,
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ALSYKE CLOVER,
BOKHARA CLOVER,
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ORCHARD GRASS,
RED TOP or HERD'S GRASS,
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TALL MEADOW OAT GRASS,
JOHNSON GRASS,
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OATS and CANE SEED.

"Whatsoever One Soweth, That Shall He Reap."

We sell strictly reliable FIELD AND GARDEN SEEDS of every variety at Lowest Market rates, included in which are

RAGLAND'S PEDIGREE TOBACCO SEEDS.

WE ALSO SELL

Our Own Brands of Fertilizers

For Tobacco, Corn, Wheat, Potatoes, &c.

Pure Raw-Bone Meal, Nova Scotia and Virginia Plaster and Fertilizing Materials generally.

Parties wishing to purchase will find it to their interest to price our goods, Samples sent by mail when desired.

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1016 Main Street,
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Headquarters for Nursery Stock.

WHOLESALE
AND
RETAIL.

We make a specialty of handling dealers' orders

ALL STOCK TRUE TO NAME.

Apples,	Nectarines,	Pecans,	Ornamental and
Pears,	Cherry,	Chestnuts,	Shade Trees,
Peach,	Quinces,	Walnuts,	Evergreens,
Plum,	Almonds,	Small Fruits,	Roses, Etc.
Apricots,			

CALIFORNIA PRIVET, for Hedging.

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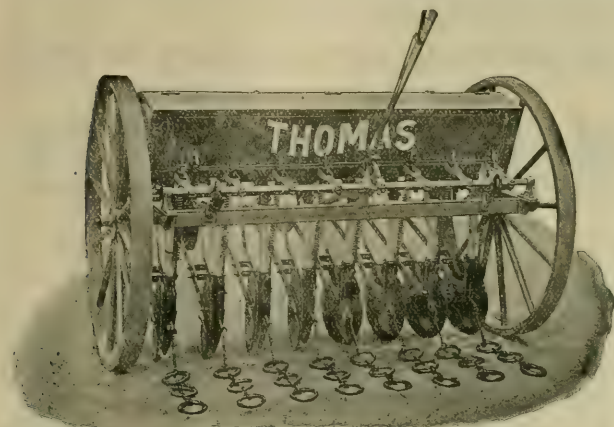
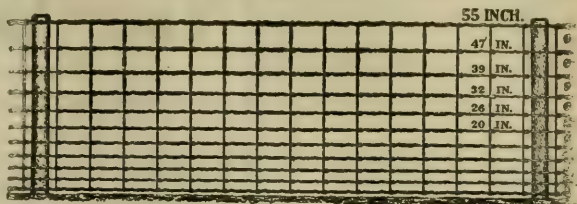
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FRANKLIN DAVIS NURSERY CO., Baltimore, Md.

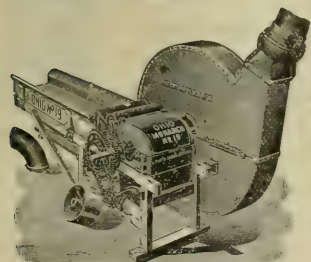
The American Field Fence

is even less than barb wire or wood and when erected is practically everlasting. Furnished in various heights and styles.

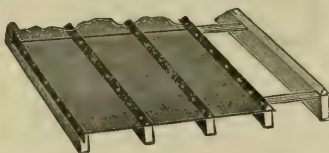
Write for special catalogue and prices.



THE THOMAS DISC GRAIN DRILL will drill perfectly WHEAT, OATS, CORN, PEAS and BEANS as well as grass seed of all kinds. With or without fertilizer attachment.



OHIO FEED CUTTERS for hand or power. A comparison with others will convince you it is the strongest, simplest and best made. The power machines are furnished with blower or carrier if so wanted. Prices very low.



V CRIMP STEEL ROOFING. The most economical roof made. Does not require a carpenter to put it on. Furnished in all lengths from 5 to 10 feet long.



WOOD'S PATENT SWING CHURN. The quickest and cleanest butter maker known. The frame is made of Hollow Steel Pipe, very light and strong, and easily forms a useful table. The churns are furnished of either wood or heavy tin.



THE EMPIRE CREAM SEPARATOR should be on every farm where three or more cows are kept. It will save its cost many times in one year. It is the simplest one ever manufactured and can be cleaned without trouble to any one. Write us for particulars.

SINGLE AND DOUBLE CIDER MILLS. All sizes and capacities at low prices.

BIRDELL STEEL SKEIN FARM WAGONS, MITCHELL FARM WAGONS, BUGGIES, CARRIAGES, HARNESS, ROBES, BARB AND PLAIN WIRE, POULTRY NETTING AND LAWN FENCING, CORN SHELLERS, FEED CUTTERS, GRAIN DRILLS, WOOD SAWS, MOWERS, BINDERS, HAY RAKES.

All kinds of Agricultural Implements and Machines.

Catalogue mailed free.

THE IMPLEMENT CO., 1302 and 1304 E. Main St., Richmond, Va.

mont, and gives details as to the structures for diverting water and carrying it over or under the streams or canals crossed. Drawings and photographs of a large number of structures are given.

Italian engineers have given more attention to the measurement of water than any other body of men in the world. The bulletin describes the methods of measurement of water in use along the Po, and gives a general discussion of the subject of water measurement.

The most striking points brought out by the report are the large expenditures for irrigation in a region where crops can be raised without it, the enduring and expensive nature of the structures, and the efficient co-operation of irrigators in using water and in canal management. Along each of these lines Italian experience is full of suggestion for those interested in American irrigation.

This bulletin can be secured on application to the Director of the Office of Experiment Stations, or the Chief of the Division of Publications, of the U. S. Department of Agriculture.

FREDDIE'S PRAYER.

Naughty Fred, in disgrace, was sent early to bed,
Rebellious thoughts filling his dear curly head.
He couldn't quite see how such treatment was fair,
And, sobbing, he murmured a short evening prayer:
"Our Father in heaven, 'way up there so far,
Bless aunty and Ethel, papa and mamma.
Make me a good boy, if you can's well as not,
I've asked you before, but I guess you forgot."

—Katherine L. Daniher, in October Lippincott's.

WITH A DIFFERENCE.

When Captain Pershing, U. S. A., on duty in the Philippines, was sent to reconcile the native Dato to our ways of thinking, he was cautioned about the Chief's great aversion to Christians. In the eyes of the Filipinos there are only two religions in the world—Mohammedanism and Christianity, his people representing the former and the Catholicism of the Spaniards the latter. On arriving at the Dato's bamboo palace he found all the Chiefs assembled, with a native band, so he proceeded to where the chief sat. One of the first questions the native asked was:

"Are you a Christian?"

The suddenness of the attack might have disconcerted the diplomatic Captain, but he was equal to the occasion and quickly answered:

"No, your Highness, we are Baptists."

"It is well," was the reply.

They then proceeded to business.—October Lippincott's Magazine.

Your money back

If you are not satisfied

DO YOU SUPPOSE that a company with a capital of \$500,000.00, paid in full, and the proud reputation of 36 years of continuous success, would make such an offer and not carry it out to the letter?

DO YOU SUPPOSE we would jeopardize our standing with the public and our chances of still greater success by failing to fulfil any promise we make?

DO YOU SUPPOSE we would make such an offer if we did not have the utmost confidence in the satisfying quality of our goods?

WE KNOW we can please you and save you money, for HAYNER WHISKEY goes direct from our distillery to you, with all its original richness and flavor, carrying a UNITED STATES REGISTERED DISTILLER'S GUARANTEE OF PURITY and AGE and saving you the big profits of the dealers. That's why it's best for medicinal purposes. That's why it's preferred for other uses. That's why we are regularly supplying over a quarter of a million satisfied customers. That's why YOU should try it.

Direct from our distillery to YOU

Saves Dealers' Profits! Prevents Adulteration!

HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

4 FULL QUARTS \$3.20 EXPRESS PREPAID

We will send you FOUR FULL QUARTS of HAYNER'S SEVEN-YEAR-OLD RYE for \$3.20, and we will pay the express charges. When you receive the whiskey, try it and if you don't find it all right and as good as you ever drank or can buy from any body else at any price, then send it back at our expense and your \$3.20 will be returned to you by next mail. How could an offer be fairer? We take all the risk and stand all the expense, if the goods do not please you. Won't you let us send you a trial order? We ship in a plain sealed case; no marks to show what's inside.

Orders for Ariz., Cal., Col., Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash. or Wyo., must be on the basis of 4 Quarts for \$4.00 by Express Prepaid or 20 Quarts for \$16.00 by Freight Prepaid.

Write our nearest office and do it NOW.

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PROFITABLE
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THE MANUFACTURER,
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Would a country where work can be carried on the entire year and where large profits can be realized interest you?

The SEABOARD Air Line Railway traverses six Southern States and a region of this character. One two cent stamp will bring handsome illustrated literature descriptive of the section.

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501 North 25th Street, Phone 1865,
RICHMOND, VA.

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Granulated Sugar, per pound.....	5½c.	Good Lard, per pound, 9c.; or 3 pounds for.....	25c.
Arbuckle's Coffee, per pound.....	13c.	Best Green Coffee, per pound.....	12½c.
Lion Coffee, per pound.....	12½c.	Good Green Coffee, per pound.....	10c.
Best Cheese, per pound.....	12½c.	Fine Teas, Green, Mixed or Black, per pound. .35c., 40c., 50c.	
Dunlop Flour, per sack, 39c.; per barrel.....	\$6.25	Large Cans of Tomatoes, per can.....	7c.
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Pillsbury Flour, per sack, 46c.; per barrel.....	7.25	Peach, Grape, Plum and Reynolds Suncured Tobacco, 3 plugs for.....	25c.
Pride of Richmond (Best Flour), per sack, 38c.; bbl. 6.15		Good Corn, per bushel.....	68c.
Best Meal, per peck, 18c.; per bushel.....	70c.	Salt, 200 lb. sack, 80c.; 100 lb. sack.....	45c.
Best Feed Oats, per bushel.....	45c.	Best Timothy Hay, per ton.....	\$16.50
Ship Stuff, per hundred.....	\$1.25	Old Crown Rye Whiskey, per gallon.....	3.00
Bran, per hundred.....	1.20	Old Keystone Rye Whiskey, per gallon.....	2.50
New N. C. Cut Herrings, per dozen, 10c., or 3 dozen.....	25c.	Excelsior Rye Whiskey, per gallon.....	2.00
New N. C. Cut Herrings, per one-half bbl, \$2; per bbl.....	\$3.75	Old Capitol Rye Whiskey, per gallon.....	1.50
New Roe Herrings, per dozen, 18c.; ½ bbl., \$2.75; 1 bbl. 4.50		N. C. Corn Whiskey, per gallon.....	2.00
Best Salt Pork, lean and fat, per pound.....	11c.	Duffy's Malt Whiskey, per bottle.....	80c.
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Patron, who has acquired a wide reputation as a breeder, is overstocked and advises me to offer a portion of his stud. These horses are for the most part bred in the purple. Prices are low and likely to net purchaser handsome profits. Note the following details and respond quick. To be offered singly or in lots.

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Twenty-five Shetland and Exmoor ponies, averaging forty inches high. Also some yearlings.

Two thoroughbred mares, good breeders, big milkers, both richly bred and registered with the Jockey Club. One of them is a living picture of an ideal thoroughbred.

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Small stud of Hackneys, stallion "Rockell," won 1st New York, "Champion," 1896 7 imported mares, two daughters and granddaughters of the great Denmark; also yearlings and foals. Address WESTHAM STOCK FARM, Westham, Pa.

SHEEP SHEARING CONTEST AT WORLD'S FAIR.

A novel and exciting sheep and goat shearing contest will be held at the World's Fair, October 12th, under the auspices of the International Sheep Shearing Festival Association. Cups to the value of \$1,125 will be offered for the following contests:

Professional contest for speed, first prize, \$125; second prize, \$65.

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Free for all competition, hand shearing vs. machine shearing, \$125.

Dick Marquis, champion sheep shear-er of the world, will give an exhibition of sheep shearing for speed and quality. Mr. Marquis holds the world's record for shearing a single sheep in one minute and 6 seconds, 360 sheep in one day, and 1,414 sheep in 6 days. The Shearing Festival will be held in the Live Stock Pavilion, World's Fair Grounds, and "will be one of the most unique and attractive features of the live stock show," says Col. Charles F. Mills, Chief of the Live Stock Department.

1904.

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Black horse, by Powhatan, dam imp. Invercauld, by St. Albans; 2d dam imp. Eleanor, by Voltigeur; 3d Themis, by Touchstone; 4th dam Rectitude (dam of Latus, Dr. Calus, Chivalry and Aristides), by Lottery; 5th dam Decision (dam of Brown Stud XXX and Silvio), by Magistrate, etc., etc. BURLINGTON will make the season of 1904 at J. E. Lane's above named farms at Esmont, Albemarle county, Va.

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On another page will be found the ad. of the Brauer Chemical Co., of New York city. In this ad. is offered an opportunity for our readers to secure a very excellent deposit box free of charge. This box is not only a very neat, but a very useful one, about 10x3x4½ inches, and is made for the safekeeping of bonds, stocks, insurance policies or other valuable papers. This box is being given away by this company to introduce Brauer's Ivory White Baby Cream. This salve is one of the finest for the skin that can be found. The integrity of this company is vouched for by the fact that Mr. Fred. C. Brauer, its president, was a former resident of Richmond, and at one time president of the Brauer Cattle Co., and is to-day the largest stockholder in the Union Stock Yards. Look up his ad. and comply with its terms, and you will secure this box free.

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Editor Southern Planter:

Now that the atmosphere at the stockyards has cleared of labor troubles, all hands will turn their attention to promoting and insuring the success of the 1904 International. The railroads have granted the same rates as heretofore for visitors to attend this great annual event at Chicago, November 26th to December 3d. Entries for cattle, hogs and sheep close October 15th, as usual; for horses, November 1st. It is advisable, however, in the interest of having everything properly classified that entries be made as soon as possible before these dates.

That this year's International will be the greatest of the series up to date, will be demonstrated. The breeders, feeders and ranchmen are thoroughly in earnest in their efforts to make the International Exposition an outstanding exponent of their industry.

Anticipating your usual kind support of this enterprise, I remain,

Yours fraternally,

W. E. SKINNER, General Manager,
Union Stock Yards, Chicago, Ill.,
September 24, 1904.

We acknowledge with thanks the receipt of an invitation from the Virginia Commission for the St. Louis Exposition to the celebration of Virginia Day at the Exposition.

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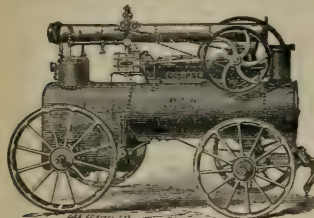


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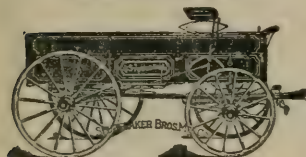
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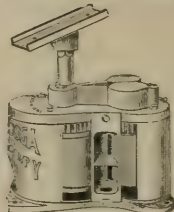
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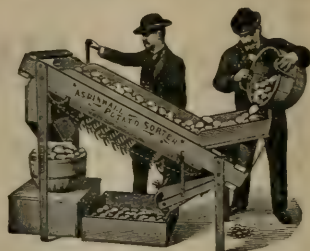


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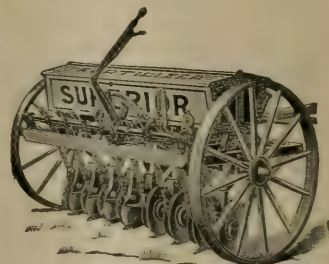
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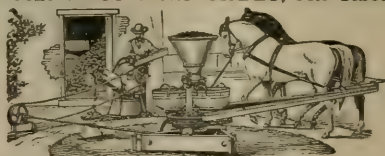
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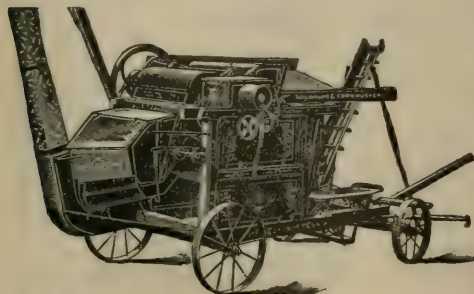
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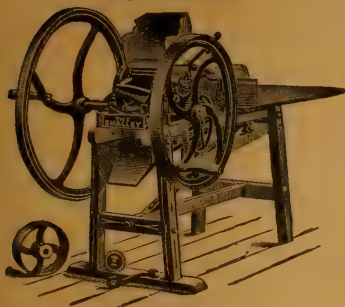
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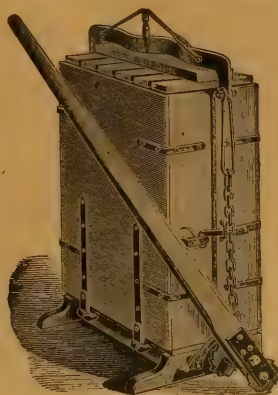
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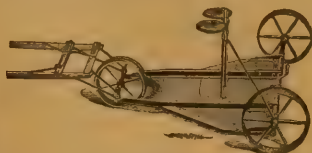
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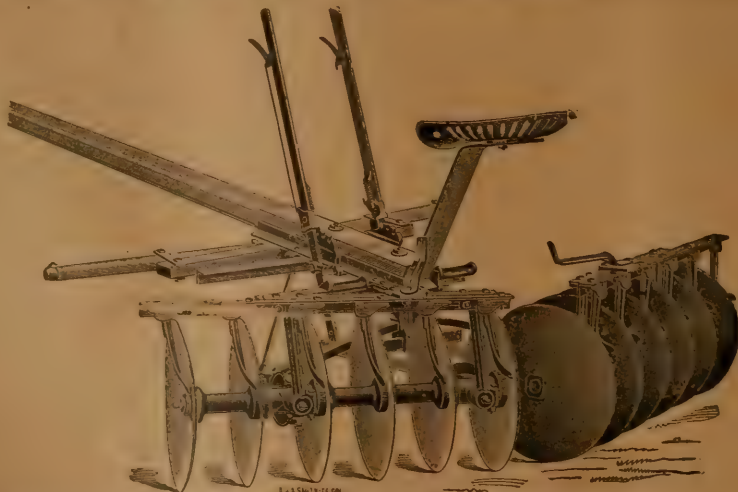
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Southern Planter

A MONTHLY JOURNAL

DEVOTED TO

**Practical and Progressive Agriculture, Horticulture,
Trucking, Live Stock and the Fireside.**

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THE SOUTHERN PLANTER PUBLISHING COMPANY, - - - - Proprietors.

J. F. JACKSON, Editor and General Manager.

Vol. 65

NOVEMBER, 1904.

No. 11.

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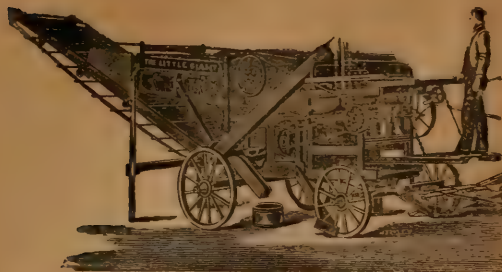
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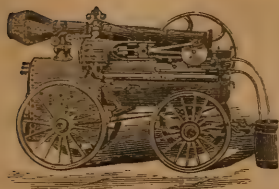
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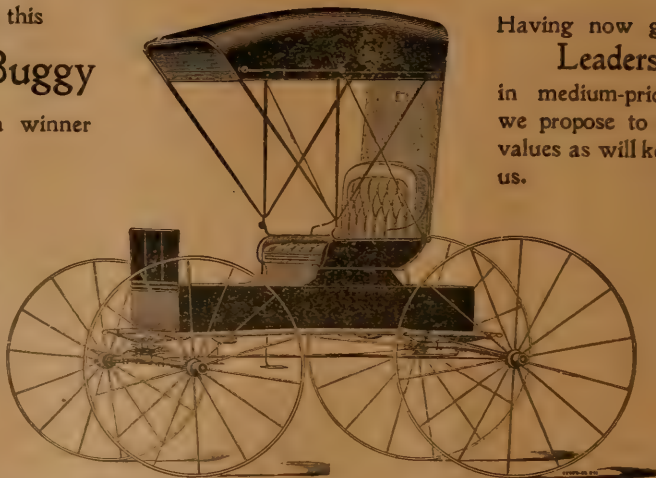
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Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, November, 1904.

No. 11.

Farm Management.

WORK FOR THE MONTH.

The month of October to the date of this writing (20th), has been a delightful fall month. The weather has been most seasonable, bright, clear days, with just a sufficient touch of crispness in the air to make working outdoors delightful and yet with no frost at night to cut vegetation except on two or three occasions, when it was cold enough to blacken tomato and sweet potato vines in the middle and western sections of the State, and on one night to do some slight damage to tender truck crops in the Eastern and Tidewater sections. The trees are still full of leaf and are only just beginning to show the autumnal tints, except upon the mountains, where these are now in their greatest glory. This fine month has done much to enable farmers to gather up the crops in good order and get them safely under cover, and has added thousands of bushels to the corn crop throughout the country. Probably this crop will now make something over 2,000,000,000 bushels, but will not be a record crop. In Virginia and the other Southern States it is probably the largest crop of corn ever made, as the area planted was larger and the yield is the highest. Virginia stands ahead of all the other States but one, in condition of the crop as reported by the government, and our information from all over the State goes strongly to confirm this. We will have plenty of corn, and probably a fair supply of hogs for all the people of the South this year, whilst for the live stock of all kinds an abundant supply of fodder has been saved or could have been with due diligence on every farm. Southern farmers will be able to observe Thanksgiving Day with heartiness.

The work of seeding the wheat crop should now be pushed to completion whilst the fine weather continues. The frost we have had will have reduced the danger of injury by fly to a minimum, and the seed should be got in as soon as the land is ready. We hear complaints from nearly all sections of the dry condition of the land, but this should not hinder seeding. It is always better to sow in dust than in mud. Some of the best crops of wheat ever made were seeded in a dust bed. If land has been well prepared, as it ought to have been during the weather we have had, the seed bed will have moisture sufficient in it to germinate the seed when properly sown, and well covered. Put the seed well down into the soil, giving at least two inches of cover and it will soon germinate even though we should not have rain for some time, and it is more than probable that after so long a dry time we shall soon get rain enough. If the land is not in fine condition do not hesitate to give more time to preparing it. Better work over again a rough field than prepare an additional field. We are anxious to see not only a larger wheat crop sown, but a larger yield per acre secured, but we would rejoice more in seeing a larger yield per acre than a larger acreage. The South ought to make every bushel of wheat that is consumed there and a surplus for export. At present she does not make the bread we eat. This year Virginia makes about 8,000,000 bushels of wheat, whilst to meet the needs of her population at the average rate of consumption of the country, she needs over 12,000,000 bushels. The other Southern States do even worse than Virginia. Whilst Maryland makes 12 bushels to the

acre, Virginia makes only 10, and North Carolina only 8 bushels to the acre. There is no reason whatever why we should not in this State make 25 bushels to the acre, and that without spending a dollar more for fertilizer. There are numbers of farmers all over the State who never make less than 25 bushels to the acre, and often make 35 and 40. Maryland, with no better land or climate, makes an average of 13 bushels to the acre, as against our 10. The great underlying cause of our small crop in the South is poor preparation of the land. Now that cow peas and the other leguminous crops are being so much more largely grown, there ought to be seen a change in the yield if only adequate preparation is given and lime is more generally applied. Legumes, lime and perfect preparation of the land should and will give a crop double the average one of the South. Sow only the cleanest and plumpest wheat and thus avoid growing weeds and stalks with heads without grain in them. The influence of the size of the seed is great on the yield. Sow an early maturing variety, so as to avoid danger from rust, which rarely becomes troublesome until after our earliest varieties have matured. Fultz and Fulcaster are both early maturing varieties. See to it that provision is made for carrying off all surface water quickly by water furrows wherever needed. Wheat cannot flourish with its roots in water. The world's wheat crop this year is a small one. We in this country have not a bushel for export, and already the effect of this is being seen in the European markets. From being the largest exporter of wheat to the English market we have already sunk into the second place, and are likely to go much lower this year. There is room for a large crop of wheat to be made without reducing the price materially, and wheat at present prices will pay if only such a crop is made as we can well make if we only prepare the land well. There is no money in making 10 bushels to the acre even at present prices, but there is money in 25 bushels to the acre, and this ought to be the lowest quantity aimed at. In our two last issues we discussed and advised on the fertilizer to be used where fertilizer is needed, and to these issues refer our readers. The main requirement of wheat is phosphoric acid, with also a moderate quantity of nitrogen, but we are strongly of opinion that the best time to supply the nitrogen is in spring as a top dressing, when the wheat commences its growth. Experiments have conclusively shown that wheat utilizes the fertilizer in the soil mainly when making the grain.

Rye, wheat and English Vetches should be seeded

this month. This crop stands frost better than any other of the legumes, and makes fine spring pasture and a good green forage and hay crop, which can be saved in time to plant the land with corn. We have made heavy crops of this mixture, which came in very useful at a time when fodder was getting scarce in the barn in the spring. Stock do well on vetches, as they are rich in protein and the crop also improves the land very much, as the root growth is large, and it gathers nitrogen from the atmosphere very abundantly. Let all land possible not required for wheat and not growing other crops be seeded with the wheat and vetch mixture, or with rye when too late for seeding vetches and thus have something growing on the land to conserve fertility and keep it from washing and wasting. Sow 25 to 30 pounds of the vetch seed with three-quarters of a bushel of wheat or rye to the acre.

Although we have had such splendid weather for housing crops all through the month of October, we yet see a very large quantity of produce of various kinds out in the fields which has long been in the finest condition for storing in barns, stacks or sheds. This is a condition of affairs on which we have to comment every year. Probably there is some improvement taking place, but we are yet far from exercising that care in the quick housing of crops that ought to prevail. Men spend months in preparing the land, seeding the crops, cultivating and harvesting them, and then sit down and watch them waste away with the weather, losing both weight and nutritive value when they might be safely housed. Surely a regard for the labor spent on them and for the money expended if not for the animals for which they are to provide the winter's food would induce greater attention to this subject. The risk of floods and storms is not heeded. Thousands of dollars worth of grain and fodder are washed away or otherwise lost every year in the South by neglect in housing crops as soon as ready. See to it that not a day be now lost in getting home all forage crops and in getting the corn into the crib. This fine weather cannot be expected to last much longer, and the cost, trouble and labor in housing crops in broken weather and hauling over water soaked land ought to be avoided. Farming can never be as profitable a business as it ought to be, and can be, whilst so much of value is lost every year by inattention to storing the crops as soon as ready. We would much like to see every crop of corn husked by machinery and the fodder run through the shredder at the same time and stored in the barn. The growing scarcity of labor

will compel this if the crop is to be saved at all, but it ought not to require this to ensure this course being taken. Where large crops are grown, it will pay a farmer to own his own husker and shredder, but where this is not practicable, then half a dozen adjoining farmers should join together and buy a machine and use it jointly. Threshing machine men ought to buy this outfit and carry it round from farm to farm and thus find work for their steam or horse powers after the wheat and oats are all threshed. In some sections this is being done, and is found of wonderful help to small farmers, who have their whole crop put into safe keeping and ready for feeding at little cost. No farmer has a right to complain that farming does not pay who allows his fodder and forage crops to waste in the field all winter. In our last issue we published a statement showing the value of the different parts of the corn stalk as feed, and its total value. This is so large a proportion of the value of the whole crop that the man who wastes it deserves no commiseration if he fails to make profit on his farm. Fodder well cured and shredded is as valuable as feed for stock as timothy or mixed hay, and will be as readily eaten by stock of all kinds.

All root crops should be dug or pulled as they mature and ripen and not be left for the frost to spoil them. Sugar beets and mangold wurtzel beets are quickly injured by frost, and when once frozen will not keep when stored. Turnips will stand a sharp frost without much injury to their keeping quality if the frost is allowed to get out of them by gentle thawing before they are pulled and stored. Ruta bagas will stand quite a sharp freeze without serious injury, and as they will make greater increase in weight during the cool weather of this month than during any like period in their growth they should not be pulled until the end of the month or even into December if the weather keeps mild. Pull and dig all root crops when dry and house them without leaving them exposed to the weather longer than necessary. We gave advice as to storing Irish and sweet potatoes in our last issue. Turnips, beets and ruta bagas keep well stored in a cool root cellar or made into pies and covered with straw and soil sufficient to keep out frost.

Old pastures which have begun to fail in yield may be given a new lease of life and usefulness by timely attention during open weather in winter and spring. Have all bushes and strong weeds grubbed out, and

then take a sharp toothed harrow and run it over the field in both directions lengthwise and across, thus tearing out much of the old matted grass and loosening the soil around the roots. Then take a horse rake and gather up all the trash harrowed up and haul it off to the hog pens. Then apply 50 bushels of lime to the acre and leave until spring, say February or March. Then sow two bushels of mixed pasture grasses like orchard grass, meadow oat grass, perennial rye and Virginia blue grass per acre, with four pounds of mixed alsike and red clover per acre, and harrow lightly in with a smoothing harrow and roll when dry enough. An application of 300 pounds of bone meal per acre will greatly help the stand, and later when the grasses are fairly growing, 100 pounds of nitrate of soda per acre will complete the work and put new life into the field and make a good pasture, probably good for many years more service.

When too late to seed any further crops, keep the teams at work whenever the weather is fine and the land dry enough breaking up land intended to be cropped next year. Many farmers think that because we have not usually hard frosts in winter that it is useless to break land in the fall and early winter as the disintegrating action of the frost is usually so slight here. This is a mistake. Whilst all land in the South is better with a crop growing on it all the year round, yet it is not practicable always to secure this. In the absence of the crop the land should be deeply broken as early in the winter as possible, so that the rain may get into the subsoil, and such frost as we may have may act on the land. In the fall nearly all our land has a hard baked surface from which the rain runs off for a long time instead of getting into the subsoil, where it can subserve the needs of the next crop. Especially after such a summer as we have had this year is it important to break this hard surface. We have had all through the South a serious deficiency in rainfall this year, and the subsoil is very dry. In many sections wells and springs have failed, and are now dry. This indicates great lack of moisture in the ground, and as the moisture of the subsoil is the great means by which crops secure their food during our hot summer it is of prime importance to the yields of crops next year that every effort should be made to replenish this lack of water by conserving the rain which may fall this winter and spring. Deep breaking and subsoiling of the land now is the best means which can be taken to meet this need. Our land in the South usually suffers more from lack of tillage than

from over-working. One plowing, and that a very shallow one, is too often all that it gets in the way of breaking, and one or two harrowings all that it gets in the way of preparation for the seed. This is not sufficient. Soil to become a fit seed bed for any crop requires much more labor than this. Frequent plowing and cultivating is equivalent to much fertilizer, and much more certain in its results. The more the soil is stirred the finer it is broken and the greater the ease with which the roots of the plants can penetrate it, and the more moisture it will be able to give to the crop, and the greater will this moisture be charged with the plant food in the soil. Deep fall and winter plowing fits the subsoil to give up its rich stores of natural plant food to the crop, and practically adds acres to the farm. The surface acres of most of our farms have been exhausted of this natural plant food by long usage. The acres below this surface are still as rich in plant food as the original surface acres ever were. This can be made available by breaking and cultivating deeply during winter and early spring. Not to utilize the winter in this way is to neglect one of the greatest opportunities which our Southern climate gives us over that given to the Northern farmer.

Now that the time for housing the live stock is near at hand we want to urge upon every farmer the importance of making the best provision possible for sheltering and caring for the animals during the cold weather. It is no use taking cattle up out of the pastures and putting them into buildings with leaky roofs and siding through which the wind whistles at every blast, and with doors and windows not closing the openings into which they should fit. See to it that these are all repaired and the houses made wind and weather tight. Give the building a good coat of limewash after sweeping down all cobwebs and dust. Let the floors of all cattle barns and stables have attention by filling up all holes and giving the floors a slight grade to one point, so that all liquid voidings can there be drained away or absorbed by straw and trash. It would pay well to concrete all these floors, as the only outlay on most farms would be for cement, say about \$2 or \$2.50 per barrel. We have published several times full directions for making concrete. Any ordinary good laborer can mix the concrete and lay same after the floor has been graded and levelled. The saving in the making of good rich manure will soon pay all the cost, and the comfort of the animals be greatly promoted. Another matter which should have attention is the making of a pit

for storing manure in the farm-yard. Whilst manure is best removed directly from the stables to the land where it is to be used in producing crops, yet there are always times during the winter when it is impossible to get on to the land with the teams, and for these times it is necessary to have a place in which to store the manure until such time as it is convenient or practicable to haul it away. This place should be made away from the side of building where the water from the roofs and yard will not drain into it. It should slope from each side towards the centre, so that the seepage from the manure will be retained in the heap and should have a well consolidated clay floor beaten to a hard surface. Into this pit the manure from all the stables should be removed regularly every day and be there mixed together. This will prevent the overheating of the horse manure, which will happen if stored alone. Pack the manure closely to exclude the air, and keep the surface level or slightly sloping towards the centre. The ordinary rainfall will not injure the manure, but will keep it just sufficiently moist and prevent fire fanging. A sprinkling of acid phosphate or kainit should be spread over the heap daily, or as manure is added to it. This will add to the value of the manure by increasing the supply of the plant food most lacking in manure, and it will also conserve the ammonia. It is well to sprinkle the manure in the stables every day with acid phosphate or plaster to prevent the escape of ammonia before it is removed to the pit or field.

THE MANURE HEAP.

In our article, "Work for the Month," we have given some advice as to making provision for saving and caring for the manure made during the winter months. We want now to add a few words on the important economic advantages of saving manure. One of the first features which strikes a newly arrived emigrant from England or the continent of Europe (in which countries the saving and methodic application of farm-yard manure is practically a science) when he goes on to one of our Southern farms is the absence of proper care for saving and utilizing the manure made on the farm; indeed, on most farms the total absence of a manure heap. He finds it thrown out of the buildings as a waste product and left to be washed by the rain and the drippings from the roofs and blown about and dissipated by the wind and sun. The next thing that strikes him usually is the constant remark that the land

wants and must have fertilizer, meaning thereby some compound brought from the fertilizer factory, if crops are to be produced. He is at loss to reconcile these two propositions, and concludes that the farmers of the South are either a very improvident people or a very ignorant one. And there is undoubtedly very great truth in this conclusion. If the farmers realized the value of farm-yard manure as a producer of crops and enhancer of fertility they certainly would not waste it as they do, and their improvidence is seen in the fact that they immediately set about to meet the consequences of their wastefulness by paying money for commercial fertilizer of which they know but little except what the fertilizer makers tell them. It has been said of the medical profession (let us hope for our own sakes without much truth), that "they pour drugs of which they know little into stomachs of which they know less." Of the farmer it can be truly said in the South, that they apply fertilizers of which they know little into soils of which they usually know less. Any observant man—nay, even the least observant—knows that if he applies farm-yard manure to a piece of land he at once improves its crop producing capacity. We have never yet met the man who disputed this proposition, yet in the face of this the great majority of farmers go on from year to year wasting manure and buying in its place something in the use of which even the most observant men have almost yearly experience that they can see in many cases no permanent beneficial results and at the best very inconsistent and uncertain ones. When taxed with the folly of spending, as Southern farmers are now doing in the three States of Virginia, North and South Carolina, something around \$15,000,000 every year for commercial fertilizers and at the same time largely wasting all the farm-yard manure, their reply usually is that the amount of farm-yard manure which can be saved every year is such a small matter that it is not worth consideration, as it would go no way whatever in making crops, and may therefore be well left out of consideration. That this is wholly untrue is easily demonstrable. Careful experiments made have shown that each horse or mule makes manure in the year of the value of \$27, each head of cattle \$19, each hog \$12, and each sheep \$2. This value is based on the values usually assigned to phosphoric acid, potash and nitrogen in commercial fertilizers, and possibly is too high from a practical standpoint. On the other hand, however, no figure is in this estimate placed on the value of farm-yard manure as an improver of the physical and mechan-

ical condition of the soil by reason of the vegetable matter which it puts into the land, and this has been conservatively estimated from practical observation as being equally as great as the direct manurial value. Nor, again, is any figure in this estimate placed on the value of manure as the direct inoculator of the soil with the life-giving bacteria upon which recent scientific research has demonstrated largely depends the crop producing capacity of land. This feature alone is in our estimation of infinitely greater value than both the others put together. Leaving aside, however, these unestimated values and making allowance for the less quickly available nature of the phosphoric acid, potash and nitrogen in farm-yard manure as compared with the same elements in commercial fertilizers, it may be safely taken as a conservative estimate that on each farm carrying four horses or mules, 20 cows, 50 sheep and 10 pigs the manure produced each year is of the value of \$250. How few farmers in proportion to the whole number in the South spend as much as \$250 every year in the purchase of standard commercial fertilizer or fertilizing ingredients, and yet they annually waste this sum and more, in proportion as the stock kept is larger, by neglecting the manure heap. "*Saving at the spigot and spending at the bung*" with a vengeance and then they say farming does not pay. The great distinguishing characteristic of farm-yard manure as compared with the best commercial fertilizer is that the manure is permanent and lasting in its effects, whilst the other at the best is only of temporary value and depends largely even then for its effectiveness on a physical and mechanical condition of the soil, which must be brought about by other means than the fertilizer—namely, by the addition of humus making material to the soil, and an abundance of added moisture to ensure the dissolving of the chemical constituents. Sir John B. Lawes, the father of agricultural experimentation, and one of the highest authorities in the world on this subject, said that as the result of his experiments continued for forty years, he was able to say that on land manured continuously for twenty years there was gradual accumulation and increase of produce, and that for twenty years after the application of manure ceased on one particular plot of land the annual yield was considerably higher than that on unmanured land. Every farmer can secure this constant improvement of his land if he will only give attention to the saving of the manure made on his farm. As the liquid manure is the most valuable, the means used in caring for the manure should embrace pro-

vision for saving all the liquid. This is generally most easily done by providing plenty of absorbent bedding and with drains leading from the stables to the manure pit, which should be so made as to hold this liquid. Both the liquid and solid manure is largely influenced in its value as a producer of crops by the food fed to the stock. The richer the food the better and more valuable the manure. Mature animals neither gaining nor losing weight practically excrete all the fertilizing constituents consumed in the food. Growing animals and milk cows excrete from 50 to 75 per cent. of the fertilizing constituents of the food and fattening and working animals from 90 to 95 per cent. Cotton seed meal, flax seed meal and wheat bran make the richest manure, the leguminous crops like peas and clover the second best, grasses the third best, corn, wheat and oats the fourth best, and roots the least valuable. When cotton seed meal or flax seed meal is fed liberally the manure made is worth as a fertilizer nearly the whole cost of the meal, and the feeding value of the meal is got nearly for nothing if the manure is saved and used as it should be. In the article, "Work for the Month," we have pointed out the best way of saving, improving and applying the manure, and to this we refer our readers. It may be well, however, to add that where mechanical improvement of the soil is most desired—that is to say, where the soil is desired to be made lighter and more open—fresh manure is best to be applied. Well rotted manure is best applied to light soils.

CROP PRODUCTION.

Under this caption in our last issue we took issue with our correspondent, Mr. Turner, upon the question of fertilization being the prime factor in the production of heavy crops, and endeavored to show that whilst this was one factor, it was not by any means the sole factor, and, in our opinion, was probably not the dominant factor in the problem of crop production. Amongst a number of the other factors which we asserted to be important, we named the microbic life in the soil as in our opinion probably more important than fertilization, however heavy. This contention is well illustrated by the wonderful results obtained from the introduction by inoculation of the alfalfa microbe into soil to be seeded with that crop. Land which without inoculation will not produce alfalfa at all, or only a very weak and puny growth, which dies out in a year or less, will, when inoculated with the microbe, produce not only a strong, healthy

growth of alfalfa, but will make a permanent sod of that crop, which will last for years, if only the conditions necessary for the continued life of the microbe are present, first amongst these being a slightly alkaline condition of the soil, brought about by the application of lime to the soil. This is a case where the microbe is more important than the fertilizer, the plant itself being thus rendered able to utilize the atmospheric nitrogen and the inert fertility existent in the soil in continued growth. The same results are seen when other legumes are grown after the soil has been inoculated with the specific microbe of the crop to be raised. When once a growth of the legumes is secured by means of the microbic life, then the atmospheric nitrogen and the inert fertility of the land in the form of phosphoric acid and potash become available, and succeeding crops of non-legumes can be successfully raised without the application of fertilizers of any kind, so long as there is available in the soil a supply of phosphoric acid and potash. The leguminous crop gathers nitrogen from the atmosphere through the microbes on its roots, and thus completes the trio of elements essential to plant growth. The yield of the succeeding crop will be in proportion to the sufficiency of the least abundant of the plant foods present and available. The microbic life enables the leguminous crop not only to get what nitrogen it requires for its own perfect growth, but also to store a surplus of this most essential plant food in the soil for the benefit of succeeding crops. In experiments made to illustrate this action, a crop of crimson clover not inoculated added to one acre of land 4 pounds of nitrogen, whilst a crop of crimson clover inoculated with the crimson clover microbe added to an acre of precisely similar land 143 pounds of nitrogen, an increase of 33½ times. So it is with vetches, soy beans, alfalfa, red clover and all the legumes. This accumulated nitrogen reveals its presence and its effectiveness in the succeeding crop. Cotton planted after an inoculated crop of red clover gave an increased yield of 40 per cent.; Irish potatoes yielded an increase of 50 per cent.; wheat increased by 46 per cent.; oats 300 per cent., and rye 400 per cent. With such evidence as to the value of one kind of microbic life in the soil, it surely cannot be safely contended that crop production depends solely, or even mainly, on the quantity of fertilizer applied. As further evidence of the importance of microbic life in the soil, the results frequently obtained from the application of even a small dressing of farm-yard manure may be cited. The amount of nitrogen, phosphoric acid and potash applied in the manure bears

but very small relation to the effect of the application on the yield of the crop. In a ton of average barn-yard manure there is only about 9 lbs. of nitrogen, 8 lbs. of potash and 6 lbs. of phosphoric acid, and this is largely in forms not immediately available for plant nourishment, yet the application of 2 or 3 tons of this manure to an acre will not merely increase the immediate crop yield, but will show in the crops for years afterwards. We have frequently seen the effect of one application of barn-yard manure on every crop for ten years afterwards, and Sir J. B. Lawes said that he could see the effect of an application on one piece of land forty years afterwards. This result arises not from the quantity of actual plant food supplied in the manure, but from the inoculation of the soil with microbic life found in and nourished by the manure. No such results can be seen from the application of commercial fertilizers. They put no life into the soil, but merely place within the reach of the crop certain forms of plant food in a more or less available condition, and the ultimate result depends mainly on the existence in the soil of microbic life, which can put these food elements into available form for plant sustenance and growth. This they do by breaking down organic life in the soil and setting free certain gases which are absorbed by the soil water, and this then becomes a powerful solvent of the mineral plant food in the fertilizer and soil. Without microbic life in the soil, commercial and all other fertilizers are practically useless in crop production. With abundant microbic life, and the conditions present necessary to its development, such as soil moisture, temperature, alkalinity and food supply, maximum crops can be produced by utilizing the nitrogen of the atmosphere and the almost exhaustless stores of phosphorus and potash in the soil. A prime factor in making all these things "work together for good" is perfect and deep cultivation and preparation of the soil. This and not extravagant fertilization lies at the root of all profitable farming.

IRISH POTATO GROWING IN HENRY CO., VA.

At Phospho-Lithia Springs, Mayor A. S. Bousman, of Ridgeway, has a patch of potatoes which required 20 bushels to plant, that is the wonder of all who see it. He has dug over 200 bushels, and has dug hardly one-third of the patch. It is an assured fact that he will make 600 bushels. With these wonderful possibilities before us, what excuse have the farmers for the fact that Henry county does not pro-

duce enough provisions each year to feed her people and stock until Christmas time.

THE USE OF COMMERCIAL FERTILIZERS.

The Ohio Experiment Station, as the result of investigations on the Station Farm, makes the following pertinent suggestions as to the use of commercial fertilizers. The suggestions are as applicable in Virginia and the South generally as in Ohio, and with cow peas and crimson clover as the source of nitrogen, instead of red clover, as there used. We would especially invite attention to the last paragraph of the suggestions—the making of stable manure. The keeping of live stock and making manure lies at the root of the successful and profitable use of commercial fertilizers, and of all profitable farming:

"On all soils the system of management plays a most important part in the scheme of fertilization. Where clover grows luxuriantly—and it will do so only on soils containing a fair supply of humus—a good crop of clover may secure a sufficient supply of nitrogen for its own use, with enough to spare for one or two crops of cereals or potatoes immediately following. Clover, however, cannot be depended upon to furnish more nitrogen than this, nor can it make up any deficiency of phosphorus or potassium. Hence, where clover does its best it may have the effect of so reducing the supplies of phosphorus and potassium that one or both of these must be furnished before maximum crops can be grown. For example, on a tract of land on the South Farm of the Experiment Station at Wooster, on which potatoes, wheat and clover have been grown in a 3-year rotation for 10 years, the 10-year average yield of wheat has been:

27 bushels per acre without fertilizers.

33 $\frac{1}{2}$ bushels with phosphorus only.

33 $\frac{1}{2}$ bushels with phosphorus and potassium.

36 bushels with phosphorus, potassium and nitrogen.

In this case the increase for phosphorus has given a large profit, but the further gain from potassium and nitrogen has not been sufficient to justify their use, except in very small quantity.

On the other hand, on the East Farm of this Station, in a 5-year rotation of corn, oats, wheat, clover and timothy, the land having been exhausted by many years of cropping with but little manuring, the 10-year average yield of wheat has been:

9 bushels per acre without fertilizers.

15 $\frac{1}{2}$ bushels with phosphorus only.

17 $\frac{1}{2}$ bushels with phosphorus and potassium.

24 bushels with phosphorus, potassium and nitrogen.

In this case the complete fertilizer, carrying phos-

phorus, potassium and nitrogen has yielded a larger net profit than any partial fertilizer.

In general, it may be assumed that land which is sufficiently fertile to produce 50 bushels of corn or 25 bushels of wheat per acre may be held close to the maximum production by the growth of clover every third season, with the addition of a small quantity of phosphorus or potassium, one or both; but when the average yield falls much below these quantities, under a 3-year rotation with clover, then the addition of nitrogen to the fertilizer is indicated.

For soils which have been depleted by exhaustive cropping the following system of management is suggested:

(1) Apply stable manure to land intended for corn, using it at the rate of 8 to 10 tons per acre. If possible, let the manure be taken directly from the stable to the field, and if it has been dusted during accumulation with acid phosphate or raw phosphate rock (floats), its effectiveness will be greatly increased for most soils.

(2) A crop of wheat or oats may follow corn treated as above, without further manuring or fertilizing, and if clover be seeded with this crop, the clover sod to be manured and planted to corn (or potatoes) thus establishing a rotation in which clover is grown every third season in alternation with a manured and cultivated crop, the best conditions of fertility recovery will have been provided and a gradual increase in productiveness may be expected.

(3) If a second crop of small grain be grown (as wheat after oats) it will be necessary to manure again or else use a complete fertilizer if the maximum yield is obtained. The proportion of ammonia, however, need not exceed two or three per cent. Clover should be sown with this crop.

(4) If, for any reason, a third crop of grain be grown before clover comes into the rotation, it should receive a fertilizer containing 4 to 6 per cent. ammonia, applied at the rate of 300 to 400 pounds per acre. Such cropping is likely to prove less profitable than where clover is more frequently grown.

(5) When clover fails to prosper on land that has been liberally manured or fertilized, making a fair stand, perhaps, but showing a weak growth after the wheat has been taken off and finally dying out altogether in spots, the use of lime is indicated. Present indications are that lime will produce more clover when applied to a crop preceding the wheat by one or two seasons than when applied to the crop with which the clover is sown. No definite quantity of lime can be stated for all conditions, but it is safe to use a ton to the acre.

(6) If a farmer's present system of management does not provide sufficient stable manure to carry out this plan, then it is time to readjust that system; for the Ohio farmer who undertakes to bring up an ex-

hausted soil to a profitable state of productiveness through the use of commercial fertilizers alone will generally find that the margin between cost of production and value of crop will leave him a very meager compensation for his labor."

BARNYARD MANURE AS A MONEY MAKER.

Since writing the article on "The Manure Heap," which appears in this issue, we have received the *American Agriculturist* of date 22d October, and in it find the following article under the above caption. We commend it to the attention of readers of our article:

One of the most attractive and interesting exhibits at the Ohio State Fair this year was one showing the comparative value of barnyard manure left in the yard during the winter and fresh manure. For seven years the Ohio Experiment Station has been studying in the field the question of conserving and reinforcing barnyard manure. Director Charles E. Thorne says the result of this work is that manure, which is thrown into an open barnyard and permitted to lie there during the five months of winter before it is drawn to the field, is for producing an increase of crop, worth, at present prices, \$2.40 per ton of manure, when the manure is spread on clover sod, the sod being plowed for corn and the corn followed by wheat and clover without further manuring or fertilizing.

When the manure, instead of being thrown into the barnyard, is taken directly from the stable to the field, the management and cropping being the same as above, we get an increase of crop to the amount of \$3.25 to each ton of manure. If, however, as the manure is being accumulated, it is dusted occasionally with the crude phosphate rock of the South, ground into a fine powder (called "floats" in the Southern States), thus reinforcing it with phosphorus and possibly at the same time preventing some loss of ammonia, we get a total value of increase of \$5.18; the odd 18 cents more than covering the cost of treatment. The work of the field has been supplemented by analyses made in our chemical laboratory, which show that from two-thirds to three-fourths of the fertilizing constituents of the manure may be washed out of it during the five months of winter exposure; they also show a very considerable reduction in total dry substance, indicating that it has required considerably more than a ton of manure, as thrown out of the stable, to produce a ton as taken from the barnyard. From investigations on the quantity of manure produced by cattle during the winter months of feeding, we are led to conclude that Ohio produces annually some ten million tons, and that of this undoubtedly more than half, probably not less than three-fourths, is wasted.

BURR CLOVER AS A PREPARATION FOR ALFALFA.

This clover, which is found widely distributed through the more Southern States, and is highly prized for winter pasture, is likely to prove of great value in preparing the land for alfalfa, as the bacteria found upon it is also effective on the alfalfa plant. Prof. Kilgore, of the North Carolina Experiment Station, says of it:

Our experience with burr clover is encouraging. While we made almost an entire failure from sowing the clover last summer, due to the very dry, hot fall, in which almost all grasses and clovers failed, the areas on which this clover grew last spring were nicely reseeded and have produced a good crop. After the clover was taken off last spring, cotton and corn followed on the same land. This clover gave grazing last fall and a small amount during the entire winter, and a large amount after spring opened, and to the first of April. Since that time the clover has grown to a height of two feet, and is now maturing seed. I believe it is the most promising crop we have found for winter grazing and soil improvement, especially in rotation with cotton and corn. To show its value for soil improvement, our experimental plat which had this crop on it last year, and on which cotton followed, yielded four hundred pounds more seed cotton per acre and without any nitrogen (or ammonia) in the fertilizer, than a corresponding plat fertilized with four pounds of complete fertilizer, which cost 40 per cent. more than the fertilizer given to the burr clover area. We find that the burr containing the seed of this clover always carries the bacteria for the inoculation of the crop. We have found that this same bacteria inoculates alfalfa. We planted a small area in alfalfa on the burr clover land last winter and now have good, vigorous plants, well inoculated, on the soil. We are using the burr clover soil at Edgecombe to inoculate our alfalfa. It has been questionable as to whether or not alfalfa could be grown on the Eastern sandy lands. Two acres of this crop put out last spring is now in splendid condition, well inoculated, and gives every promise of being an entire success. I think a thin seeding of the burr clover with alfalfa, or else preceding alfalfa by burr clover to inoculate the soil, will solve the problem of getting the proper bacteria in the soil for alfalfa, and at small cost and trouble. This is the prime consideration in the growing of this crop. Our experiments in this line, I consider, make it now easy for us to get this inoculation.

HOW I BUILT UP A POOR FARM.

Editor Southern Planter:

If having been the owner of poor land fits a man to write about it, and if he is competent in proportion

to the poverty of the land, then I think I am the most competent man in North Carolina to discourse about poor land. Some years ago I bought some so poor that the ownership carried a distinct species of disgrace along with it. For time out of mind owners, and since the war successive tenants, had skinned that land, or tried to, for generally the land did the skinning, the tenants being poorer at harvest than at seed time.

This land lay convenient to me. It was free from rocks, hills and waste place. It was light and indeed somewhat given to sandiness, and therefore pleasant to cultivate. I bought it, giving the owner considerably less than half the price he paid for it a few years previously, and set to work to make it productive.

I did not intend for that land to break me, as it was said to have served its former owners; therefore I sought to proceed upon economical lines. Aware that of the three elements of fertility—ammonia, potash and phosphoric acid—ammonia is both the most costly and the easiest to escape the soil, I decided to buy as little ammonia as possible, especially as it costs about three times as much as the other ingredients per pound. Of course I had to have ammonia, but I knew that I could get it without buying it at so much per ton—in fact, get it free. Potash and phosphoric acid I also needed largely. These I had to buy, because there was no other way to get them into the soil.

The land was plowed and run off in rows three feet apart. In these rows I sowed a mixture of 150 lbs. of kainit and 100 lbs. of acid phosphate per acre. Listing on this furrow by a furrow from each side, I then split open the list with one furrow. This served to mix the fertilizer in the soil and also threw open the furrow for the peas. In this furrow I sowed evenly early in June cow peas at the rate of one bushel to the acre and covered them lightly with a small tooth cultivator. During the summer, as needed, they were given three workings with the small cultivator, no hoe work being required.

The result was a fair crop of cow peas and pea vines. The peas I picked as soon as ripe and cut the vines for forage.

In September I plowed under the stubble and applied broadcast the same quantity and the same kind of fertilizer used for the peas. This I harrowed in with a disk harrow, leaving a perfect seed bed. On this I sowed annual (erimson) clover at the rate of three gallons to the acre, and dragged it in with a bush.

The following spring the clover yielded a moderate

crop of forage, the land being yet too poor to raise clover with much success.

In June I plowed under the crimson clover stubble and again drilled in peas, using the same fertilizer and the same mode of culture as the preceding year. The autumn showed how my land was improving. The crop of both peas and pea vines was good—I might almost say excellent.

In September the pea stubble was plowed under and crimson clover again sown, the treatment being the same as that of the fall before. The next spring gave a very good crop of clover hay indeed. This I again followed with peas, the cultivation and manuring being the same as for the two former crops. The crop of peas and forage that came that summer was a wonder. Its equal had never been seen in the neighborhood.

I now found that this pauper farm had been transformed into a very good one indeed, worth many times what I paid for it. That fall I turned under the pea stubble and put the land in strawberries—my staple crop. Since then I have grown as fine berries and as fine crops of all kinds on that land as anybody has grown in the county. Every two or three years I have rotated in cow peas or crimson clover, using potash in the form of sulphate of potash and acid phosphate on the berry crop, and my land grows better and better.

O. W. BLACKNALL.

MR. CLARK'S HAY CROP OF 1904.

Editor Southern Planter:

I now have the second crop in the barn off my 11½-acre field, which is all I have down to grass this year. The first crop yield was 120,173 lbs., the second crop 55,650 lbs.—total for the year on the 11½ acres, 175,823 lbs.—over 7½ tons to the acre in the two crops.

The ¾-acre field, now seeded 15 years, cut this year first crop 14,728 lbs., second crop 7,650 lbs.—total 22,378 lbs. Total crop on the ¾-acre field in 15 years at one seeding, 250,650 lbs. Please notice this year in the two crops over 11 tons. I think the yield most remarkable, the 15th year after seeding, over 11 tons of well-dried hay. One word on the matter of drying my hay—the first crop this year had an average of three full days good sunshine; the second crop had eight days without rain, five of them bright sunshine, well teddered and spread and heaped up every night. This is my method of drying hay. If your readers will send me a two-cent stamp I will tell them how to produce similar crops. GEORGE M. CLARK.

Higganum, Conn.

HOME GROWN ALFALFA SEED.

We are in receipt of the following letter from the Department of Agriculture on this subject, and invite the attention of our readers to it. There is no reason whatever why our farmers should not raise their own alfalfa seed, and thus be certain as to its purity and germinative quality, besides being also assured of its thorough acclimation. Much depends on these points as to the success of the crop:

I have your letter of September 17th, and am glad to know that the raising of alfalfa seed will receive your attention the coming year. I believe that it would be an advantage in many cases if farmers could use home grown seed. I would say that ordinarily the second crop is used for seed, although other crops may be used if the conditions are satisfactory for the ripening of the seed and curing the hay. The hay may be mowed, cured and stacked as for hay. The cutting should be done when about half of the pods are thoroughly ripe. In many places the hay is cut with a self-binder and the sheaves shocked. The threshing then takes place from the shock. Much of the seed is threshed with an ordinary threshing machine, but it is much better to use the alfalfa huller. The yield is likely to be 5-7 bushels per acre.

A. S. HITCHCOCK,

In Charge of Alfalfa and Clover Investigations.

Department of Agriculture, Washington, D. C.

WHAT THE PLANTER HAS DONE FOR ONE SUBSCRIBER.

We are in receipt of the following very satisfactory letter from a Pennsylvania subscriber. It illustrates the importance of the point of perfect preparation of the land before planting a crop, which we have so often advised and emphasized. No matter what the crop, the perfect preparation of the land before seeding or planting is of infinitely more importance than the quantity or quality of the fertilizer applied:

Editor Southern Planter:

Have been very busy harvesting Irish potatoes. Will have 2,200 bushels of potatoes, and thank you, Mr. Editor, for advising in your spring numbers to properly fit the soil before planting. Our spring was wet and late, and many planted on poorly prepared ground with disappointing results. It pays to thoroughly pulverize the ground before planting. The land on which I grew these potatoes would only yield from half to one ton of timothy hay per acre. I used 800 pounds of fertilizer per acre, buying the chemicals from one of your advertisers and mixing them on the barn floor. I did all the work myself.

Yield from 150 to 200 bushels per acre. Nothing large about the yield, but considering an old tough sod and extreme stony ground, I think I did very well. Neighbors said, "Starve to death" when I moved on last spring, and now I have \$1,100 worth of potatoes and nearly \$200 worth of vegetables to show for my season's work. I plant with Aspinwall potato machinery, and harvest with a Hallock digger. Long may the PLANTER live to do good.

FRED. HARVEY.

Clearfield, Pa.

ALFALFA.

Editor Southern Planter:

All indications seem to point to Virginia as the ideal climate and soil for alfalfa. It appears to be destined to revolutionize our entire system of farming. One ton of good alfalfa hay is said to be worth over two tons of either red clover or timothy hay. In fact, the value is placed much higher by many chemists, who have analyzed it. One seeding will last forty years or more, but generally it takes two years and oftener three to get a good stand, but once obtained it is almost invaluable. With inoculation a stand can be obtained in two years, and it ought always to be inoculated.

The cost is comparatively small. It has succeeded as far north as Canada, and as far south as Florida. It can be cut four times a year, and the average yield is about four tons to the acre. The protein in alfalfa hay makes it extremely valuable for cattle and hogs, and indeed all stock. My knowledge of it is obtained second hand, but it rests upon the highest kind of practical evidence of men who have tried it. It will inevitably raise the price and value of Virginia real estate, and ought to double the present number of our cattle and hogs. And as far as I am able to judge, it is eminently suited to the land of Southside Virginia. It is said by Mr. Shirley, of Indiana, in the last number of the SOUTHERN PLANTER, that in Colorado the roots have been known to go in the ground 129 feet; this is almost incredible, but it is certainly true that they will go a great depth. This is the true reason why it lasts for forty years or more. From all I can gather, it can be successfully sowed in Virginia at any time from the 20th of March to the 20th of September, and if it is inoculated, a good stand can be obtained in two years. Twenty pounds of good, clean seed to the acre sowed both ways broadcast upon splendidly prepared soil is the proper amount to sow. One hundred and fifty pounds of soil at seventy-five cents f. o. b. per

100 pounds is ample to inoculate the acre, and the stand ought to be disked once every season, and the weeds and alfalfa be cut with the mower three or four times a year for the first two years so as to prevent the weeds seeding and to thicken the stand. After that time when a good stand is obtained the weeds will give no more trouble. The roots, from their immense length, draw support from soil which has never hitherto been utilized by the farmer. It is worthy of a painstaking trial by every farmer in Virginia. The writer intends to commence with ten acres the next season, and, if successful, he will increase it to fifty as rapidly as is practicable.

CAMM PATTESON.

Buckingham Co., Va.

SOME GOOD IN ALL METHODS.

Editor Southern Planter:

We see a great deal of contention about different methods of farming. Many farmers are dogmatic, one-sided, and fixed in their ways. Some of them believe commercial fertilizers are the whole thing, while others more wisely advocate stable manure; a few would depend almost wholly upon rotation and a thorough cultivation of the soil. Of this class the number is very small—smaller, possibly, than it ought to be.

The fact is that agricultural science is very complicated. Therefore it is necessary in practice to exercise great care in determining the true method, or combination of methods. We need to get all the reliable theory and experience that we can and then sift for the truth.

Sometimes even truths seem to be arrayed in opposition to each other. I explain this by assuming that there are unnoticed differences in the circumstances. It is hard to see all sides of a phenomenon at one glance. For example, a progressive farmer told me the other day that he was more successful when he seeded his loose stubble land to grass in the fall by simply scratching the surface and sowing on that. He thought the stubble and dead grass acted as a cover crop, or a mulch, to protect the young crop in winter.

There is doubtless much truth in this. Yet, on the other hand, some of the best hay farmers tell us that the land should be thoroughly plowed, pulverized and cleansed of all trash before we sow. They say further that there should be no cover crop.

Which is right? Perhaps both are right from their respective viewpoints. The clean culture far-

mer sows early in order that his grass may become well established before winter. He wants all foreign matter out of the way of the new crop and the soil so finely divided in texture that the tender roots may readily take up the plant food held in solution and grow off rapidly. The two parties see different points of advantage, and no doubt there is virtue in each.

All reasonable ways of putting in a crop have their valuable points. It is the same with all farm work. This is why there is so much diversity of opinion about farm matters, and why it is so hard to have a settled science of agriculture. We thus see why it is so difficult to agree upon the relative value of fertilizers, manures and cultivation. Commercial fertilizers do good under favorable circumstances. Stable manure, we know, makes land much more productive, and there certainly is no discount on thorough cultivation and rotation as crop producers. All have their merits that should be recognized. It is a great mistake to think that all the good is in any one method or system of crop production. The best features of all methods are bound to bring satisfactory results.

Powell Station, Tenn.

T. C. KARNES.

"If there is one rule applicable to all successful farming, it is the old saying that, 'Whatever is worth doing, is worth doing well.' More intensive farming and a more exact knowledge and practice of the best methods in every branch are needed. This can be obtained by watching the agricultural papers and studying reports of the agricultural colleges and experiment stations, which are sent free to all who ask for them. Farmers want to take a little more pride in their business, and show it in their surroundings. They do not need to have their fields unsightly by reason of weeds and bushes growing where they do not belong, nor the walls and fences tumbling down, nor their dooryards littered with tools that should be housed, and carts that should be broken up with much other rubbish fit only for the wood pile. These are little things, and may not seem to have much influence on the profit of the farm, but these little things neglected give it an unthrifty look that helps to drive the more ambitious children off the farm just when they are old enough to have taken some pride in it.

When corresponding with advertisers, kindly mention the SOUTHERN PLANTER.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Utilizing Bones.

Will you please state if you know of any way that I might utilize the lye in potash fertilizers to dissolve raw bones without the expense of grinding them up. Do you believe lime is strong enough to eat the bones up if covered over them in a box or barrel? If I could manage this I could make a cheaper fertilizer by buying the bones raw.

A SUBSCRIBER.

Port Walthall, Va.

The best way to utilize bones, if you cannot get them ground, is to dig a trench in clay soil and put in a layer of bones and then a layer of wood ashes alternately until the trench is filled, and then keep the lot damp with water. This will gradually soften them so that they will crumble, and then mix with soil and apply to the crop. You might use some of the potash fertilizers, like muriate of potash, to soften the bones, in the place of the ashes, but this would make the cost greater.—Ed.

Value of Broom Corn Stalk and Chess or Cheat as Feed.

What is the value of broom corn stalk for feeding to cattle? Also cheat or chess that grows sometimes in winter wheat or oats if ground with corn or other grain? In fact, have either any feeding value?

Surry Co., Va.

J. M. H.

Whilst broom corn stalks contain a fair percentage of nutritive value, the woody fibre is so abundant that they are unpalatable to stock, and therefore cannot be usefully utilized as feed. Cheat or chess has practically no feed value, or a very low one, for stock, and is not worth saving for that purpose.—Ed.

Early Irish Potato Growing in Tidewater, Va.

I have recently purchased a farm in Mathews County, Va., and I want to make a specialty of Irish potatoes as a trucking crop. This land is a loam, but poor. Will you be kind enough to tell me in your next issue the kind of seed to use, how many bushels to plant to the acre, the kind, how much fertilizer to use and when to plant? I want to get these potatoes on the market as soon as possible in the spring. In fact, I want to beat the other fellow if possible. You might also indicate as to the preparation of the land, cultivation, etc.

Mathews Co., Va.

W. D. BURLEY.

The soil for the early Irish potato crop should be a

mellow, sandy loam, well supplied with vegetable matter. Land newly cleared from the forest is excellent, but the best preparation on old land is to grow a crop of peas on the land the previous season and let them die on the land to be plowed under for the crop. The plowing under should be done as soon as the vines are dead in fall, as if plowed under just before planting they are apt to promote the scab fungus. Planting should be done as soon as the land can be gotten in good order after January, and they should be planted not later than the first half of March to get on the Northern markets when high prices prevail. As the crop is to be grown at a time when nitrification in the soil is not active, a high grade fertilizer should be used. Irish potatoes are one crop upon which the highest grade of commercial fertilizer can be used with greater success than any other form of manuring. The use of farm-yard manure on the crop is very liable to cause scab. The fertilizer must be applied with a liberal hand. Many of the best growers use from 1,000 to 2,000 lbs. of the highest grade fertilizer per acre. The following formulas may be used: 300 lbs. nitrate of soda, 600 lbs. fish scrap, 800 lbs. acid phosphate (14 per cent.), 300 lbs. muriate of potash—or 300 lbs. nitrate of soda, 600 lbs. cotton seed meal, 800 lbs. dissolved bone black, 300 lbs. muriate of potash.

It will take from 8 to 10 bushels of seed to plant an acre, cut to 2 or 3 eye pieces. The best seed to use for the crop is second crop Southern grown seed. As to the variety—this is a question on which there is much difference of opinion, but we still strongly favor the Early Rose, when seed of true breeding can be relied upon. Thoroughbred, Red Bliss Triumph, Puritan and Crown Jewel are also desirable varieties. If you are satisfied that your land is good enough to grow the crop—that is to say, has sufficient vegetable matter in it—plow at once, and plow deeply. Work it whenever dry enough through the winter, and then at the time above named lay off in rows 2 ft. 6 or 3 feet apart and plant 15 inches apart in the rows.—Ed.

Preparing Pea Fallow for Wheat.

How would you prepare corn land for wheat upon which is a fair cover of peas? Would it be better to turn the peas under, or would they help the land if disked in with a disk harrow? J. M. W.

Franklin Co., Va.

Cut the peas into the ground with a disk harrow. It is always risky to plow a pea crop down for wheat, unless done very early, so that they have time to rot

and the ground to become consolidated again. The crop turned under late makes the soil too puffy for the best success of the wheat.—Ed.

Road-Making.

We have made a stretch of road, with gravel taken from river bed. The gravel was screened and the coarser put in the bottom and the finer on top to a total depth of 5 to 6 inches. The road packs a little after rain, but soon dries out and becomes soft and loose, making it unpleasant for driving and difficult for hauling. What can you suggest doing to make the gravel bond, and thus make a hard Macadam road?

Transylvania Co., N. C.

H. E. TENER.

Spread on the road a good coating of heavy clay soil and harrow this well into the gravel, and then roll and keep well rolled until thoroughly consolidated, taking care to keep the centre of the road well above the sides so that no water will stand upon or soak into it after it has once been rolled.—Ed.

Lump on Calf—Japan Clover.

1. I have a male calf six months old that has a hard lump nearly as large as my fist immediately in front of navel. It appears to be very painful to the touch, and seems to make the animal dull and languid. Give cause and remedy for same.

2. Is Japan clover of any value as feed? My pasture has become completely overrun with it, to the exclusion of grass. My cattle do not seem to thrive on it. I have heard cows would dry up from eating it. D. J. WALLER.

Spotsylvania Co., Va.

1. This is a case of umbilical hernia. It is often seen in young animals, and frequently heals spontaneously as the animal gets older. As the animal gets older the abdominal muscles get stronger and possess more power of resistance to pressure, the bowels become larger and do not pass so readily through a small opening, so that from a combination of causes there is a gradual growing together or adhesion of the sides of the navel. In cases of umbilical hernia, where there are no indications that a spontaneous cure will take place, the calf should be laid on its back, and immediately this is done the hernia will often disappear into the abdomen. If it does not, its reduction may be brought about by gentle handling, endeavoring, if need be, to empty the organs forming the hernia before returning them into the abdomen. After the hernia has been returned the hair should be clipped off from the skin covering it and a compress composed of ten or twelve folds of linen or cotton should be applied, first smearing the skin with pitch, and then a bandage of about three inches wide should be

passed round the body so as to retain the compress in position. Smear the part of the bandage next the compress with pitch to keep it in place. If the contents of the sac cannot be returned into the abdomen, then a surgical operation will be necessary to reduce the hernia.

2. Japan clover is a plant of the legume family, and, like all the legumes, makes valuable feed and constantly improves the land upon which it grows by gathering nitrogen from the atmosphere. There is no truth in the saying that it dries up cows. The reason that your cows do not thrive upon it is because the growth is not sufficiently tall to give them a good bite. When the land becomes rich enough to grow it luxuriantly, they will thrive on it. We have heard the late Mr. Rowe, of Fredericksburg, who was one of the first men in the State to sow Japan clover, say that, although he gave a high price for the seed, he would not be without it on his farm even if he had to give \$10 a bushel for the seed, and he kept one of the finest herds of Jersey cattle in the State. As an improver of the land alone, it is worth growing, as it will grow and thrive on poorer land than almost any of the legumes, and gradually fits them for producing other crops. In the Gulf States it makes a valuable hay crop.—Ed.

Lime.

How much can I afford to pay for common rock or builders' lime for agricultural purposes, and haul same four miles over fairly good road? In other words, will it go any further than the shell lime? The lime in question has become air slacked by standing in house eight or ten months.

J. R. D.

Pitt Co., N. C.

The lime is no more valuable than shell lime in this condition. Both are carbonates of lime, and both will prove of great value to your land. You should get it for \$3 per ton.—Ed.

Sores on Mule.

Please give me a remedy for sores on my mule's legs. They appear to be caused by the animal biting itself, which shows there is itching. They heal in winter, but appear again in summer, and sometimes swell the limb.

E. J. PANNILL.

Wash off the scabs with soap suds and a brush, if necessary, and then apply a solution of tobacco, 1½ ounces in 2 pints of water, prepared by boiling the tobacco in the water. Repeat once or twice at intervals of 10 or 15 days.—Ed.

Preparing Land for Corn—Implement Dealers—Spring Wheat.

1. I have a piece of land, somewhat sandy loam, which has been resting (?) for the past two years. I want to plow it this fall for corn next spring. Will lime sown broadcast this fall help it any? How much lime to an acre would you use?

2. Name some of the largest agricultural implement concerns, as I want to get their catalogues.

3. Will spring wheat grow in this State successfully? What variety would you advise?

Campbell Co., Va.

C. W. HEK, JR.

1. Plow the land this fall or winter, and plow it deep, and if possible subsoil it as well. Then apply 50 bushels of lime per acre and run a harrow over it to just mix the lime with the soil, but not to bury it deeply.

2. Ashton Starke, The Implement Co., Henning & Nuckols, Watt Plow Co., Call Watt Co. are all large dealers in implements in this city, and will gladly send you catalogues. See our advertising columns for others elsewhere.

3. Spring wheat cannot be grown successfully in this State.—Ed.

Wheat and Oats as Feed.

I saw an article some time ago in the *PLANTER* stating that the most economical way of feeding oats to stock was to have them threshed out and feed them loose and bale the straw and feed that in winter. It is our custom here in Anson County to mix wheat with our oats, and when they come ripe enough to feed we cut them and feed without threshing. What I want to know is, will wheat and oats sowed in this way threshed out make as good feed as the oats will by themselves?

E. K. DUNLAP.

Anson Co., N. C.

We do not recall ever having advised the threshing of oats intended to be fed to stock, though some one else may have done so. Our advice always has been to feed the oats in the straw. In this way the full feeding value of the crop, and it is a high one, is secured. The mixing of wheat with the oats will not improve the feed value of the crop, as oats alone, both grain and straw, have a higher feed value than wheat and wheat straw. The mixing of the two crops will result in a greater yield of feed, as this is almost invariably the result of growing two of the cereals together. We have had a number of reports of the mixed crop, showing this to be the case. The two crops grown together and cut in the milk stage make excellent feed, but it should be fed as cut and not be threshed.—Ed.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The great press of work in the garden and truck patch being now over, opportunity should be taken to clean up thoroughly all trash and rubbish and to burn the same, so as to destroy all spores of fungoid, diseases and the eggs and embryos of all insects. When this has been done, have all unoccupied land plowed deeply, and give it a dressing of lime at the rate of 50 bushels to the acre. This will sweeten the soil, which is very apt to become soured and unproductive and in need of lime to hasten the decay of vegetable matter turned under. Harrow the lime in lightly and then seed with a mixture of crimson clover, hairy vetch and wheat and oats. This will make a cover for the soil during winter, and give green feed for the chickens and a good fallow to plow down in the spring.

The planting of cabbages for the spring crop should be pushed on so that the same may get hold of the soil and commence to make root growth before winter sets in. See that the land is made rich with plenty of barn-yard manure and some high-grade fertilizer, not too rich in ammonia, but having plenty of phosphoric acid and potash. In our last issue we gave some advice as to the manner of setting out the plants, to which we refer our readers.

Lettuce plants should be set out in the cold frames for winter and early spring cutting. See to it that the soil put into the frames is in a sweet and friable condition. Never use the old soil in the frames for lettuce, as it is very apt to cause rotting of the plants and damping off. Keep the frames open as long as the weather is mild.

Celery should be earthed up so as to blanch the same. Keep the soil out of the hearts of the plants by either tying the stalks together with soft material or by holding them close together with the hand when drawing the soil to them.

Cover asparagus beds with a heavy coating of barn-yard manure, first cutting off the old stalks and weeds.

Set out strawberry plants in well prepared land. Be careful not to set the plants too deep so as to cover the crowns. Let the land be made fairly rich with

phosphoric acid and potash and well rotted manure. Fresh manure is apt to introduce weed seeds into the beds, which make work and trouble in spring.

Land may be got ready for planting bush fruits and orchard trees, and the bushes, canes and trees may be set out towards the end of the month and in December. Do not place manure in the holes in which the trees are to be set, but plant them with good soil and mulch the ground after the plants are set with strawy manure to afford protection and slow feeding during the winter and spring. In setting out an orchard for home supply set out a few trees of varieties maturing their fruit at different seasons, so as to keep up a continuous supply for the table. In planting an orchard for commercial purposes plant only one or two standard varieties adapted to the section. It is much easier to market a large crop of one or two varieties than a mixed lot. Buyers will seek the large lots of one variety, but the seller has generally to seek the buyers for small lots of many varieties.

ONION GROWING.

In our last issue we advised the planting of onion sets for the early spring green onions and for dry bulbs for the early market. A series of experiments has been conducted at the Oregon Experiment Station to determine the relative advantages of growing onions by transplanting and by sowing in the field. The seed for the onions to be transplanted was sown in boxes in January, and they were kept slowly growing in cool frames until March, when they were transplanted into the field. The seed for the open field grown crop was sowed in drills in the field on February 28th. The following table gives the results:

Variety.	Yield.	Field Sown. Bbs.	Incr. due to trans-planting Bbs.
	Trans-planted. Bbs.		
Sutton Ailsa Craig	992	393	599
Australian Brown	648	525	123
Red Wethersfield	432	263	169
Silver Skin	432	280	152
Yellow Globe	770	485	285

The table brings out clearly the increased yields obtained with all varieties with the earlier seeding and transplanting.

STRAWBERRIES IN OCTOBER.

We have been eating strawberries for several weeks this month grown a short distance out of this city, and sold at 20 cents per basket. The grower has had quite a fine crop of beautifully colored and flavored berries—in fact, much finer flavored than those we had in the spring, when, on account of the cold weather, they were hard and sour. This fall crop is worth attention, as the berries sell readily after the bulk of the peach crop is gone. They can be had by setting out the plants in the fall and not allowing them to bloom and set fruit in the spring.—Ed.

APPLE GROWING IN THE EAST.

We take the following extract from an address made by Mr. Orlando Harrison before the Maryland Horticultural Society, as reported in the Country Gentleman:

Apples are attracting the attention of the fruit-grower as well as the farmer more than at any other time in the past, as the apple has become a necessity. Only a few weeks ago I had the pleasure of visiting Frederick Wellhouse, of Kansas, at his home, a man seventy-five years of age, full of enthusiasm for apples. He has now planted 1,635 acres, and is recognized as the apple king of the world; has made a financial success, and the earnest advice he gave me on apple-growing was of great value. He impressed on me the necessity of system, keeping accurate accounts of what is expended, and insists that a man who plants apple trees, cultivates well the first five years, and has push and vim, and makes his orchard self-supporting the first five years, cannot help but succeed.

Mr. Wellhouse succeeds best with the following varieties, named in order as to their value: Jonathan, Missouri Pippin, Ben Davis, Winesap, Gano, York Imperial, Maiden's Blush and Cooper's Early. The two last named varieties he has marked from his list in his last plantings. He has marketed his crop as low as five and a half cents per bushel, while it has cost him as much as ten cents per bushel to pick and barrel them. His largest crop was in 1890, being 79,170 bushels from thirty-five acres. He prefers the high hills of the best soil for best success, and such land costs him \$50 per acre. He has made a reputation as a successful apple-grower, and is proud of his profession, which has helped toward success.

After spending three weeks in the West, seeing where the apple seedlings were grown on the black bottoms frequently overflowed by water, while their nurseries and orchards often do not go through the winter safely, I feel better contented with Maryland as an apple-growing State far in advance of any other

I could select, especially the rich soil of Washington county. We have better apple soil, richer, cheaper, nearer the exportation port, cheaper labor and many natural advantages. There is no reason for leaving the State to find land to engage in a profitable and delightful business. About 75 per cent. of the apples planted in the mountainous regions are York Imperial and Ben Davis, while Grime's Golden, Missouri Pippin, Gano, Jonathan, Landford Seedling, M. B. Twig, Winesap, Stayman's Winesap, N. W. Greening, Rome Beauty and Smith's Cider are planted in light quantities by many.

SHOULD FARMERS RAISE THEIR OWN FRUITS?

Editor Southern Planter:

That fruit, in the fruit season, is agreeable to the taste, healthful and desirable as a part of our diet, is not disputed by anybody. That farmers generally should raise all the fruits needed by their families is a proposition not quite so clear. There are some States in the Union, and some regions in each State, where the soil and climate are not favorable for raising some kinds of fruit, and possibly not the best quality of any. In these States, or parts of States, it would seem that the question of fruit raising had been decided in the negative by the Almighty. Rich men, for pleasure, may grow tropical fruits in hot houses, but the generality of farmers will raise the crops for which their soil and climate are adapted, and buy their oranges and prunes from Florida and California. This is in accordance with the true principles of trade, without which there could be no commerce.

It may not always be the best policy for a farmer to raise all the fruits which grow well in his neighborhood. One man cannot do everything, and do it well. He might be able to buy some of his fruits cheaper than he could raise them. Men who do only one particular thing become very expert at that, and consequently can do it quicker, better and cheaper than the man with less knowledge and experience. There are some places where even quite common fruit like strawberries cannot be bought, and a farmer must raise them himself or go without them.

Where apple trees grow well, are long lived, and productive, as in most of the Eastern and Middle States, farmers should certainly set out trees enough of the best varieties to supply their families with this kind of all the tree fruits. Where the soil and climate are unfavorable, as in many parts of the West, it is not only unprofitable, but vexatious and discouraging to set out trees, as they only live a few years after they begin to bear, and more trees must be set out every few years to supply their places. In Adams county, Ill., grapes, raspberries, black-

berries and strawberries grow nicely, but Mr. John M. Stahl says that it costs considerably more to raise apples, and five times as much to raise peaches, pears and plums than the same quality of fruit can be bought for raised in more favorable localities. The same may be said of more counties in that and several other Western States. In Kane county, Ill., I was told by a friend who has lived there a long time, that eight years was about the average lifetime of apple trees. They could be made to live longer by the protection of a wind-brake, but the protection would cost labor, and make the fruit more expensive.

In Missouri thousands of apple trees die every year from what they call "root blight," and the remedy is said to be to allow the trees to form a head so low down that the lower limbs rest on the ground. If the remedy were a sure one, apples could be raised it is true, but such orchards could not be cultivated or kept seeded with valuable grasses, and would soon grow up full of noxious weeds, and instead of being a thing of beauty, would soon become an eye-sore and a harbor for woodchucks, skunks and other wild vermin.

Currants, all things considered, are the most valuable and easiest raised of all the small fruits. They are not so delicious to the taste as strawberries, but are more valuable because so much easier raised. They are indigenous in the temperate zone of Asia, Europe and America, and the black variety is so hardy it endures the rigorous climate of the Shetland Islands. The red and white varieties are the best, the whites not being quite so sour as the red. With reasonable care and manuring, they will grow on the same ground as long as asparagus, and produce crops every year. For thirty years our bushes have not failed to bear every season. The only labor is to manure them, keep the weeds pulled out, the old canes removed, and the green worms destroyed. A little white hellebore, about a heaping tablespoonful in ten quarts of water, well stirred and sprayed on from a watering pot will kill the worms every time.

There is no other fruit that will remain on the bushes so long after getting ripe without rotting or drying up, becoming tasteless or wormy. It seems to be their particular virtue to hang on the bushes and keep good until they can be used.

There is no good reason why farmers should not raise gooseberries. They are not quite so good tasted as currants, and the bushes are full of sharp thorns, which wound the hurried picker's hands, but they are easily raised, are fine for stewing or canning, and provide an agreeable change, which all tastes desire. Their chief enemy is the currant worm, which must be fought with hellebore. Raspberries and blackberries are as easily raised as cabbage or corn. The wild black caps and reds from

the woods of the vicinity will improve by cultivation, and be the kinds that will surely endure the climate. Most farmers raise grapes, and all *ought to*. The Clinton and Concord, though not the best, are the hardiest here and will endure the most neglect.

J. W. INGHAM.

Except in the mountains of the west of this State we have never seen either currants or gooseberries grown in the South worth gathering. The climate is too warm for them. The gooseberries raised are poor, miserable, sour berries, no larger than the wild ones to be found in England. We have in that country grown gooseberries by the bushel as large as plums, and quite as good flavored and sweet as the best plums. Mildew is the great enemy of the gooseberry in this country. There has not yet been produced a berry resistant to this disease. We would not advise any one to try to raise currants or gooseberries in the South. Strawberries are the best of the small fruits for the South. In bush fruits, blackberries and raspberries are the best, but even these suffer in a hot summer, and are small and hard.—Ed.

STOCKS AND SCIONS: THEIR MUTUAL INFLUENCES.

Although a great deal is written about fruit and fruit trees in all agricultural papers, but little is ever said about grafting and budding, and what little one does see consists, almost without exception, of brief instructions how to perform these comparatively simple operations.

This, however, is but the A B C of the business, and, I fear, but few of us have got beyond it, or if we have, have religiously kept our information to ourselves. The important questions of the relative influences of stock on scion and of scion on stock are, almost without exception, passed over in silence, and yet the size, quality and time of ripening of fruit largely depend on the kind of stock used.

Referring to the Encyclopædia Britannica, article "Horticulture," this point is briefly alluded to, and one interesting illustration showing the influence of stock on scion is given—namely, the *Cytisus Adami*, a graft hybrid, originated by grafting *Cytisus Purpureus* on the common laburnum, the hybrid producing some flowers and foliage like each of its parents, and some intermediate between the two.

I am satisfied that a late apple grafted on the stock of an early variety, or on the seedling of one, matures earlier, and an early grafted on a late, matures later than the average; also, the size, shape, color and flavor of the fruit are more or less influenced.

I believe many nurserymen have been blamed for

selling stock not true to name, where the fault has been due to careless selection of stocks to graft on.

Unfortunately, it does not appear that enough experiments have been recorded to reduce the laws of grafting (outside of politics) to anything like scientific accuracy.

I trust some more experienced than I will contribute their experiences in this most interesting and profitable subject.

In a nearby orchard, a friend of mine has grafted one variety of pear on different stock, which pear is a large late cooking variety, and the nature of the different stocks on which it is grafted is known.

On the Bartlett, the pear partakes of that nature, being modified in shape and markings to that of the Bartlett, the flavor being slightly mellowed, but its large size being well maintained.

Grafted on the Seckel, both shape and skin approximate to that variety, though retaining the large size; whilst a third, grafted on the mountain ash, differs from both the others. The original pear appears somewhat different from any of these, but I do not know what the nature of the stock it is grafted on may be.

I remember eating pears in both England and Ireland which had gritty flesh next the core, and in both countries this was, rightly or wrongly, attributed to their being grafted on the English hawthorn or white thorn stock.

Another subject of interest is fruit tree seedlings. Presumably, the nearer the fruits approximate to the wild varieties, the less variation there will be in the specimens raised from seed.

At any rate, I believe it to be a fact that apricots, peaches and quinces will reproduce themselves with fair regularity, apples and pears seldom, generally producing worthless varieties, with an occasional notable exception of market value; whilst good cherries, a fairly good percentage of marketable varieties, and the same may be said of plums. Walnuts seem fairly constant to the original type; while cobnuts and filberts tend to revert to the wild hazel, whence they sprang. Occasionally, however, a variety as good as, or better, than the parent is found. Of course, with all fruits, careful hybridizing is of the utmost importance if definite results along given lines are desired.—W. L. L. Hamilton, in *Farmers' Advocate* (Canada).

WHAT ARE THE BEST VARIETIES OF PEACHES FOR VIRGINIA.

Mr. R. H. Price, Montgomery Co., Va.:

Dear Sir,—Your "History of the Peach," *SOUTHERN PLANTER*, September, 1904, shows I have been planting a wrong race of peaches for this latitude (Stump, Cranford, etc.). I am in Albemarle county, Va., within two miles of Blue Ridge, elevation 900 feet; soil, red clay loam; good, natural drainage;

field level. Could you be so good as to tell me the best peaches to plant here, and where I can buy the trees? Yours truly, M. B. LANGHORNE.

Albemarle Co., Va.

While it is a very difficult thing to recommend suitable varieties of peaches especially for a given locality, still we are beginning to learn that there are races of peaches best adapted to certain thermal lines. Leaving out high elevations on mountain sides, I would not hesitate to plant a considerable number of Elberta and Mamie Ross varieties in this State. These varieties come from the "North China race." They are late bloomers and are hardy in bud. Elberta is not a good pollenizer, when planted largely by itself. Mamie Ross is an excellent pollenizer for itself and Elberta. Therefore I would plant the two together. The Elberta variety has made several men rich in Georgia and Texas. It heads the list of great market peaches of the world. It goes to the northern markets from the above mentioned States by the train load. It has gone also in sample packages into the English markets. When the Texas and Georgia crops have been exhausted, why could not Virginia and the Carolinas follow up with other shipments. These two varieties undoubtedly would grow well on our light sandy rolling lands. Our apple orchards could be planted on richer and more clayey soils. The peaches would be harvested and gone before the apples come in. By growing both crops the market season of the grower would be prolonged to the advantage of his purse. The peach is being neglected in Virginia owing largely to the belief of the uncertain fruiting habits of this fruit. The wrong varieties have been planted. Bad locations for orchards have been selected. Borers have killed thousands of trees in the State. We have learned now how to overcome all these difficulties. Now let us plant some peaches this fall of the two varieties I have mentioned. Let the peach industry in Virginia grow. There is scarcely a better yellow canning peach than the Elberta variety. We can put up all we do not ship. The peach is one of the best paying fruits to can, as I know by experience. Plant peach orchards on the mountain sides and canneries in the valleys along the small streams. Begin the work this fall. Where can I obtain the varieties? I have not examined the lists of Virginia nurserymen for these two varieties. If they do not have them, I want them to get them. They can be bought of Texas and Georgia nurserymen by the car load. Let us have more questions asked about the peach. What are your difficulties? I will answer them through the *PLANTER*. R. H. PRICE.

Live Stock and Dairy.

THE MANAGEMENT OF BEEF CATTLE.

Editor Southern Planter:

The season of the greatest interest and concern to the man who proposes to feed beef cattle is rapidly approaching. Now is the time when he must give consideration to the kind and class of animals he will feed the coming winter, for on the selection of the animals depends very much the profits derived from his labors and the price obtained for his foodstuffs. Any one contemplating feeding beef cattle must think about it a long time in advance in order to arrange matters to the best advantage, locate supplemental foodstuffs which it will be necessary to purchase, and secure them for spot cash when the market price is lowest. As a rule, it is a mistake to wait until a few days before it is desired to put cattle on feed to locate them. One then generally has to pay a higher price and has to be satisfied with a class of cattle that are not as good as could be obtained had forethought and a definite plan formed a part of the contemplated work. Possibly more loss is sustained through a failure to study the markets and the best condition of the cattle trade six months hence—the selling time—than from any other cause. In a number of instances last winter men who had undertaken the feeding of cattle failed, according to the observation of the writer, because of a failure to map out a definite plan before they commenced feeding. One man, for example, started to feed a number of cattle for the Christmas market. He had had very little experience, and not knowing how long it took to finish an animal, found them unfit for the market when Christmas arrived. He had foolishly commenced feeding them a heavy grain ration from the start, thinking by so doing he would finish them rapidly, and thus he found his grain pretty well exhausted before his cattle were half finished. He had also fed them about twice as much grain as was necessary to secure a good gain, and hence with half-finished cattle on his hands used to a heavy grain ration, he could not let down on the amount of meal fed. There was no recourse but to increase the supply of meal and continue to feed for several months in order to get rid of the cattle at a fair price. The experiment, so far as he was concerned, was a financial failure, though men in the vicinity where this happened fed cattle at a profit. The other instances referred to, while different in details, were similar in results, and the cause was almost the same. The inference to be drawn is that one who proposes to feed cattle must know what he is

trying to do, and then must proceed in an intelligent way if he hopes to succeed.

Formulating the plan is therefore the first essential and might appropriately form a feeder's motto. True, a plan, no matter how well prepared, cannot always be adhered to; but it is easier to meet contingencies with one in mind than when going at haphazard gait. After the cattle are secured many persons make the mistake of putting them on feed at once. Animals brought off the grass will not readily take to a fodder and grain ration. They must be given several days in which to become accustomed to the changed food and surroundings. This is appropriately termed the preliminary feeding period, and should cover from 7 to 14 days, the longer period being preferable. During this time very little grain need be fed; just enough to accustom them to its use and to get them to relish it. Give them a fair supply of rough fodder or silage, as the case may be, but do not feed lavishly. The attempt should be rather to teach them to acquire a liking for the new food.

Animals will sometimes not take readily to new kinds of food for several days, examples of which are sometimes seen in the case of silage and cotton seed meal. After they once acquire a taste, however, they eat these foods ravenously. The "putting-on-food" process should therefore be slow and deliberate. A violent change of foodstuffs requires a new adjustment of the digestive system, and many people make the mistake of trying to rush cattle on a heavy grain ration in the beginning, with the result that the appetite soon becomes cloyed and the animals go "off feed," something little short of a disaster to the feeder. With new foods and forced feeding from the beginning, the digestion is likely to be upset, so the cloying of the appetite and "getting off feed" is often not a simple matter, but something whose effects may be felt for several months. It sometimes happens that the animals never again acquire the keen appetite with which they started out when first put on feed. Thus, the preliminary feeding is a very important period, determining very often the success which will finally be attained.

Where cattle are to be fed for 150 or 180 days, to be finished on grass for early slaughter, at least 30 to 60 days should be consumed in bringing them to full feed. In fact they do not reach what is the final concentrate limit until within the last 30 to 60 days. At the end of the preliminary feeding period of two weeks, the roughness ration may be brought to its full

limit, though at this time not more than 4 to 6 pounds of meal is best to feed per head per day. The meal ration may then be increased one-half to one pound per week, depending on the size of the animals. If the animals are being fed for 150 days, this will give three months, or twelve or thirteen weeks in which to reach the final limit of the concentrates fed. Animals weighing 800 pounds and receiving four pounds of meal when first placed on feed, would then be receiving from 12 to 15 pounds of meal per head per day, which is all that they will consume profitably. In fact, in our experience where silage has been fed it has generally been most profitable to limit the meal ration with such animals to ten pounds if of cotton seed meal, and to ten to twelve pounds if consisting of one third to one half cotton seed meal and the balance of corn and cob meal. By raising the meal ration gradually the digestion of the animal is never upset nor the appetite impaired, and thus uniform gains are obtained from the beginning to the end of the feeding experiment, something which is absolutely necessary if large gains are to be made, for when an animal gets "off feed" it often takes two weeks to bring him back, and during that time he will certainly stand still, if he does not lose.

During the progress of the feeding experiment the consumption of roughness will decrease and the concentrates increase, and it is well to bear this in mind and not allow a lot of food to accumulate in the mangers. There is nothing that will throw an animal off feed sooner or destroy his appetite more quickly than to leave the mangers full of spoiled, picked-over food. The mere breathing of the animals on this food makes it distasteful to them, and it will also soon become musty, thereby endangering both the appetite and the health of the animals. The manger should be cleaned carefully each day and washed once in a while with a strong solution of borax or salt. It may take a little time to do this, but it is labor well expended, for animals on heavy feed are very likely to become dainty, which is, to say the least, a misfortune.

Care should also be exercised to see that the foods are fed in the most palatable condition. Palatability increases the consumption of food, and large and uniform gain can only follow where food is consumed freely and in the best condition for rapid digestion and assimilation. Musty, dirty food should not be offered to animals. Clean, bright hay and fodder can be had just as well as the other kind, if the farmer is a good business man, and if he is not, he had better keep out of the cattle-feeding business. Should

soured or fire-fanged places occur in the silage, throw them to one side, as it is liable to throw the animals off feed and cause indigestion. The same is true of the meal. Cotton seed meal sometimes becomes stale. See that only bright, golden-colored meal is purchased, and then keep it in a well-protected place, so it will hold its flavor and quality throughout the feeding period.

One who contemplates feeding cattle must provide some means for weighing them, if the best results are to be obtained. Cattle must be weighed at least every ten to fifteen days in order that an estimate may be made of their gains, and the food adjusted to their needs, and it is only in this way that one can keep up with the progress of the respective individuals, for the eye is very deceiving, and the best gains are frequently made when one supposes the animals to be standing still. The scales are the best criterion by which to ascertain the individual progress of the animal and the food supplies needed for the best gains. When one finds the animals not making satisfactory increase in live weight, the food can be readjusted—one concentrate increased or decreased, or a new roughness given. Very trifling changes sometimes give surprising results, and it is hard to see how one can hope to feed cattle successfully where no scales are available for weighing them from the time they are first placed on feed until they are ready for shipment. Certainly feeding cannot be done in the absence of a pair of scales, with the greatest economy of food.

Another important matter is to see that the animals are uniformly supplied with good pure water and plenty of salt. A lump of rock salt may be kept in the mangers or feeding troughs. A daily currying is a great advantage, as it keeps the skin open and healthy and aids circulation—a very important matter. It is also important to see that the animals are kept in comfortable surroundings—good clean stalls, with plenty of bedding. An open lot is not satisfactory, where the animals have to tramp through mud and are exposed to the rains of the winter season. Give them some kind of an open shed, where they can be clean and well supplied with bedding, and you will add much to their comfort and insure a larger gain and a greater profit. ANDREW M. SOULE,
Virginia Experiment Station.

When corresponding with advertisers, kindly mention the SOUTHERN PLANTER.

HEREFORD ASSOCIATION FOR VA. ORGANIZED.

An enthusiastic body of Hereford cattle breeders met at the Hotel Roanoke, Roanoke, Va., on Wednesday, September 28, 1904, at 8 P. M. to discuss the subject of an organization of a Virginia Hereford Breeders' Association, to promote the interests of the Hereford breed in the State and lower South, and to hold annual sales at some central point in the State to provide those who are contemplating entering the breeding business with the opportunity of making personal selection from the best herds, without being put to the expense of visiting the several breeding establishments, and thus cause a wide distribution of the finest cattle. Breeders believe that where the Hereford breed is once tried, it is sure to be maintained.

After a general discussion of the objects and means to accomplish the greatest advancement, by-laws were drafted and adopted, and the Association was organized formally under the name of the Virginia Hereford Breeders' Association, with the following officers: Murray Boocock, President; H. B. Hawe, Vice-President, and Edward G. Butler, Secretary and Treasurer. The following Board of Directors was elected for one year: Murray Boocock, H. L. Morgan, H. B. Sproul, E. G. Butler, H. B. Hawe, J. D. Stubbs, H. Mechendorf, E. R. Phipps and E. L. Eakle.

A charter has been applied for, and a share of stock will be given each member of the Association, the membership fee being \$5, and open to all reliable Hereford breeders or owners of a registered Hereford in Virginia.

Constant additions of very fine Herefords are being made to the already grand herds in the State, and with such splendid show bulls and sires as Salisbury, Prince Rupert, Acrobat, Marmaduke, Van and Rex Premier, not to mention the other grand sires and females owned in the State, the Virginia Hereford Breeders' Association unquestionably stands on a solid foundation, and every breeder should join the ranks at once and either send his application for membership to the Secretary, Edward G. Butler, Berryville, Va., or write him in regard to joining the Association. The united efforts of every breeder of pure-bred Herefords, and every owner of a registered bull is desired.

The Association proposes to have the State Fairs join with it in the selection of competent judges, as the present system is very faulty and discouraging to breeders who exhibit their cattle and thus demonstrate the splendid qualities of the Hereford.

The Herefords won the championship over all breeds at the World's Fair, and their wonderful and superior grazing qualities and hardy constitutions stamp them as the cattle best suited for our Virginia pastures.

AN EXPERIMENT IN FEEDING BREEDING EWES.

Mr. Alva Agee, in the National Stockman, makes the following report of an experiment made in heavy corn feeding of breeding ewes by Mr. Todd. We reproduce the same for the purpose of showing that it is possible to adopt this course with safety, notwithstanding many strong opinions to the contrary. We would, however, urge that in adopting such a course care should be taken not to feed the heavy corn ration close up to the time of dropping the lambs, nor for a week afterwards. During this period (say a week before the lambing and a week afterwards), the grain ration should be limited to bran almost alone, so that the bowels of the sheep may be kept open, and thus the danger of a high feverish condition at lambing be reduced until normal conditions are established and the flow of milk is freely started. After that time, with strong, healthy lambs, there is no danger of any loss from heavy feeding, as the lambs will take the milk as fast as made, and the more they take the sooner they will be ready for market and the fatter they will be, and a fat lamb rather than a large one is what the market calls for and pays well for. Mr. Agee says:

Fifty-four grade ewes—Merino, Shropshire and Oxford blood—were bought by Mr. Todd the middle of last August for \$167. They were put on good grass, and began receiving a grain ration the first of November. One and a half quarts of oats and corn, by measure, per head were fed during November, and then the same quantity of a mixture of corn, oats and bran, by measure, increasing slightly the amount in latter part of January, and getting up to two and a half quarts by the first of February.

The ration was then increased to three quarts, of which one-third by measure was corn, and here only close watching saved from loss, because while the sheep ate all the grain their appearance showed to Mr. Todd that he was a little past the safe limit, and he dropped back to two and a half quarts daily. This was fed morning and night, with all the clover hay wanted, and water was supplied freely.

The lambs did not begin to come until about the middle of January, and the most were dropped during February. The ewes were fat, of course, before lambing, and Mr. Todd believed that he could have

them so, and keep them so, and raise good fat lambs at the same time.

He made an improvement in the construction of the "creep," into which the lambs go for separate feeding. Instead of placing it around the outer edge of the pen, as usual, where lambs often fail to find it readily, he put it in the center of the pen. Troughs were so constructed that the lambs could not get their feet into them and taint their food. This is important. The feed was cracked corn. It should be coarse. If any is fine, it should be sifted out. A little salt—not too much—should be put into this grain ration.

The first shipment of lambs was made early in March, at an average age of seven and a half weeks, and the average dressed weight was thirty pounds. The lambs weighing thirty pounds or more sold for \$7, while the few under thirty brought only \$5 to \$6. The shipment of any under thirty pounds dressed was a mistake, as the market was as good the following week. The market requires this weight, and the lamb must be fat. The sixty-one lambs brought \$360. The wool of the ewes sold for \$82. The ewes were fat enough for market when the lambs were taken from them, and were sold for \$212, making total receipts \$654.

The feed cost \$295, and \$10 was paid for dressing the lambs. Adding the first cost of the flock, \$167, the whole cost amounts to \$472. Placing no value upon the manure or the exercise gotten by Mr. Todd in feeding, the cash returns are entirely satisfactory.

The important point, however, is not the exact profit, but it is the fact that these highly-fed ewes, getting a big amount of corn, gave good lambs that thrived on corn, and the ewes were fat enough for market when the lambs were taken from them.

AMONG THE FLOCKS IN ENGLAND.

Editor Southern Planter:

It is a great opportunity for an American shepherd to visit England and study the conditions and methods of sheep husbandry there. The writer was so fortunate this summer as to visit England for the purpose of importing some Dorsets, and he took the occasion to travel through several counties to learn about the various breeds and their management.

The first thing that caught my attention was that each small section of that wonderful country had its own breed of sheep, and when I asked for an explanation, I was told that this was the country suited to that special type. The Cotswolds have never thrived in Kent, where the Romney Marsh sheep are raised by the thousands; the Southdowns have never invaded the Dorset country in Somerset and Dorset;

the Ryelands have never been successful in Lincolnshire, where the lordly Lincolns have held sway from time immemorial.

This dividing of England up into sheep districts does not coincide with the division into counties. Sometimes two counties were found given over to a breed. The Dorsets were the sheep of Dorset, Somerset and the Isle of Wight. The Isle of Wight is in Hampshire county, and yet that lovely island has been found better suited to Dorsets, although many flocks of Hampshires are found there. One corner of Dorset county has been invaded by Hampshires, and they have done well there. Is it not remarkable that the worst flocks of Dorsets I saw were in this corner of the county! I asked an old Hampshire breeder why the Hampshires of the Isle of Wight and southern Hampshire were not proof that these sheep thrived there. He said: "Did you not notice the heads of those Hampshires? Their noses are too fine. You cannot grow typical Hampshires on that soil."

I found only one section that reminded me of cosmopolitan America. This was a lovely stretch of country around York. Here I saw scrub sheep, mottled sheep, poor sheep, ragged sheep, black sheep, white-faced sheep, black-faced sheep, big sheep, little sheep, mean sheep, fine sheep. I actually found one flock of black sheep consisting of about one hundred head. There was also a flock of Cheviots, seen so rarely except in that Cheviot country, where these noble little sheep climb the grassy hills and rest in the thick moor grass by the winding burns.

The next thing that caught my attention was the size of the flocks. It was no uncommon thing to find in Dorset one thousand head of Dorset ewes in one flock, and in Kent and Wiltshire I think the flocks were sometimes even larger. In Scotland the shepherds had learned that these large flocks could not be run together with safety, so they had taught their dogs to keep them grazing by day in small bunches, and to gather them by night into scattered groups. In England the plan of management enabled the shepherds to graze their sheep together and keep them healthy. This was a wonder to me. One day I walked through a flock of 710 Dorset ewes, and I never heard a cough, never saw a dirty nose, never caught sight of a lame sheep, and found not a single ailing ewe. Do you suppose we can ever do it in this country? You want to know at once how they manage their flocks. More of this later.

The next thing that I noticed was that in certain sections the type of sheep seemed so unsuited to gen-

eral purposes, and you were prone to ask, Why maintain such breeds? The Exmoor and Dartmoor sheep seemed to be a rough mountain sheep with horns, poor fleeces, and suited only for roughing it among the hills of Devonshire and Cornwall, and yet they are maintained as distinct breeds, and had numerous entries at the Royal Show. Imagine our showing at St. Louis, a few pens of those long-legged mountain ewes, so common in certain sections of West Virginia. On inquiry, I found that these sheep were very profitable, and were the only sheep that ever thrived in those sections. They required very little, if any, care and handling.

In another section I saw those curly fleeced Wensleydales, whose blue faces suggested disease, and whose wool looked more like a poodle's than a sheep's. I found the little Sussex, not half so large as South-downs, and yet they were exceedingly popular, because their flesh was the choicest dish in England. It had only one rival, and that the flesh of the Welsh mountain, another type of sheep that we would set aside as not worthy our notice.

The Ryelands in Hereford were set aside a bit in popularity by the coming of the cosmopolitan Shropshire, but the people will not give them up, and I must confess that I saw much in them worth keeping. I never saw better backs and shoulders on any sheep, and the wool was the very best in all that country. Thus throughout the country you could meet up with sheep that seemed almost curiosities, and yet they were the sheep for that country.

Now, just a word about the management of sheep in certain sections. I will in this paper confine my attention to the management of flocks in Dorset and Somerset. When I reached that charming country, I found the sheep farmers making up their flocks for the season. They were to turn the rams in that very week, the last week of June. They had their shepherds go over the six toothed ewes and mark on the rumps all the ewes that would be retained, the rest being thrown out with all ewes over three years to go out as "grazers." All ewes over three and the culls were sold to men in Wiltshire and Hampshire and the Isle of Wight, who bred them to Hampshire rams and then placed ewes and lambs both on the market at Christmas, the lambs often weighing sixty pounds. Coming back to the making up of the flock, the four-toothed ewes were next marked on the side, then the two-toothed ewes, which had been carefully selected from the "chilver lambs" of the year before, were marked on the shoulder. I found that the shepherds never practiced deception in the mark-

ing of the ewes. They thus knew the individuals of the three ages in their flocks. The rams were marked on the brisket and turned in six and eight at a time, and the shepherd was on hand to keep a record of the breeding. It was a sight to see this mating. It impressed one with the fecundity of the Dorsets, for to one in this country a ewe that comes in June is a rarity. Here in Dorset 20 and 30 ewes would come to service in a few hours after turning the rams in. After two days one ram was used at a time, and the shepherd was not kept so close on the watch.

The fine sod of this section made it possible to pasture about six times as many sheep per acre as the average Virginia farm could maintain. The farms there were divided up into small fields with hurdles, which were light fence panels woven of split hazel switches. The lambs were kept in front of the flock in the rotation. These were kept for three or four days on a small boundary and were then moved to another. The ewe flock in the course of a week would come to the boundary, which the lambs had left. Thus with a half dozen fields, the lambs and ewes were kept in constant rotation, neither flock remaining on one pasture more than four days, and each going to grass that had not been grazed for eight days. There being no very hot sun, the sheep grazed all day, and had no need to lie in the shade of the fence or trees, so they had no opportunity to make pest places in the fields, as our sheep in America are sure to do. No wonder we have parasites. The ewe lambs are allowed to eat mangels all through the year. These are thrown out on the ground uncut. It injures their teeth, but it makes the lambs grow. When these mangels wilt, the shepherds say they will not stop the water of ram lambs, but they are sure death for rams when fed fresh. These people have little winter in this section, so they have no shelter. These Dorset ewes lamb in November right out in the fields, and the lambs are ready to eat the winter rations along with the ewes. They feed little grain in the winter, but their sheep are allowed plenty of roots. In December they are turned on the turnip fields, where they eat tops and roots; in January and February they are turned on the swedes (rutabagas), where they eat the roots right out of the ground, although the swedes are often lifted to help them to get at them; in March they are turned on the mangels, and they have mangels to their hearts' content.

The constant care of the shepherd is no small item in this successful sheep management. The shep-

herds stay right with the sheep, having no other company save that of their faithful dogs. These shepherds have their houses on wheels, and these are moved to different parts of the pastures at night, and the sheep are made to sleep around them. This seems extravagant to us, but it pays, I tell you. I saw a flock of 1,015 Dorset ewes sold at auction at from \$14 to \$16 a head. A man could afford to keep a shepherd with his sheep if it would enable him to handle that number on two hundred acres and make them worth that much per head. That country is an eye-opener to the sheep man. It makes him come back home determined to study the problems of sheep husbandry here and plan for better things in the future. We lack the climate of Southern England, and, therefore, the grass and the cool hours of the daytime for turning it into mutton, so we must be handicapped, still there is much for us to learn, and I confidently hope for better things in the future. The first great problem is to learn how to get our sheep healthy and keep them so. No need in trying to raise good sheep when they are filled with parasites and debilitated with catarrh.

West Virginia.

H. B. ARBUCKLE.

TRAINING THE HEIFER TO BE MILKED.

Editor Southern Planter:

"Breaking" is the word in general use, but is not the right one to denote the proper manner of teaching heifers to stand still and be milked. When we talk about the breaking of a contract, or a bank, a wagon or a plow, the idea conveyed is of a regrettable event. The word breaking indicates that violence is to be used, whereas at the first milking, and all subsequent ones, only kindness must be exercised, and no clubs or milking stools be broken over the heifer's back. Kindness, firmness and perfect self-control must be exercised from the beginning to the end of the lessons. As the fond mother washes and dresses her child in spite of its struggles and cries to prevent her, so the experienced milker will use all the force that is necessary, and milk his heifer in spite of her kicking. Mankind obtains dominion over the lower animals by superior knowledge, greater persistence, and command of temper. No man should undertake to break a heifer or milk a kicking cow who cannot control his anger.

A neighbor of ours says he never has any trouble in breaking his heifers because he raises them already broken, or rather breaks them as he raises them. From the time he takes them as calves from their

mothers until they have calves of their own, he accustoms them to having their bags and teats handled, and frequently he pretends to milk them. This, of course, to be effectual must be often repeated, and is more trouble than most farmers who raise their own cows are willing to take, yet it is well always to accustom heifers to be handled from birth to maturity as frequently as can conveniently be done. I always break our heifers myself, and have had fifty years' experience in the business. Some heifers will allow you to milk them without offering much, if any, resistance; but a large majority will resent the liberty you take in robbing them of their milk. Perhaps they think the milk should be kept for the calf, and is a sacred deposit for that purpose, but whatever they think, they try to kick the pail over, and kick your hands loose from their teats, and sometimes kick with great violence. In such cases no amount of petting and coaxing will avail. There is but one effectual way, and that is to milk them in spite of their kicking.

I put the heifer into her stall, tie her head up short, so that she cannot back out, or surge ahead, and give her some dry meal to eat in order to put her into an amiable frame of mind, but it won't prevent her from kicking, if she doesn't want to be milked. I use a wooden pail because it stands more firmly than a tin pail, and I do not place it directly under her bag. I put an old cap on my head, stand on my feet to milk, place my head in the heifer's groin, taking a firm hold of the right hind teat with my left hand, and the front fore teat with my right. If she tries to kick I brace my feet, stiffen my neck, and hold on to the teats with a bulldog grip. The left hand is the one, of course, which she tries to get loose, as it is the one which prevents her from hitting the pail. Standing on my feet bent over, I can vary my position as she varies hers, and if my hold is maintained she can kick but little and cannot hit me nor the pail. I do not try to draw milk while the struggle lasts, only tighten my grip and maintain my hold. The length of the struggle depends on the disposition of the heifer. Some are more stubborn and determined than others and make several fierce fights for the mastery at the first milking, and repeat them with less violence at the second and third. When she finds that I am master of the situation and can "hold the fort," that I don't want to hurt her, that I do want her milk, and am determined to have it, whether she is willing or not, she gives up the battle, and there is no more trouble. In my opinion, a heifer broken by tying her with ropes and

straps around her legs or over her loins would be only half broken, and the ropes and straps would have to be used many times on a stubborn heifer. Sometimes the gentlest heifers are the most self-willed and hardest to break. I have broken a large number, and have never known one to injure her teats by my holding on to them while she is kicking. Old cows will kick when they have a sore teat, and I milk them forcibly the same as I do heifers.

J. W. INGHAM.

Where a cow has a sore teat a milking tube should be used, and this saves her pain and yourself trouble until the teat heals.—Ed.

SWINE FEEDING.

Swine feeding, like any other industry, is profitable in proportion to the intelligence and skill employed in the care, feeding and management of the hogs. The accompanying table brings out some very interesting facts, demonstrating how the farmer might easily feed his animals, either at a considerable profit, at a bare profit, or under certain conditions at a direct loss. In view of the growing interest in feeding all classes of live stock, it will pay to study this table carefully, for it brings to light some important facts which are frequently overlooked on the farm, as they directly influence the feeder's profits.

Surely this subject of swine rearing is of great importance to the Southern farmer, because to-day, in a country with every natural facility for the development of the business, not enough pork products are produced for home consumption. Considering the favorable conditions, it is hard to realize why this should be the case, but if one inquires of the farmers themselves, he frequently receives as an answer the fact that the business is unprofitable owing to the prevalence of some animal disease, the scarcity of suitable foodstuffs, or the small gains made by the animals.

If malignant forms of disease, such as cholera, should prevail, the cause is due to unsanitary conditions, while the remedy remains in the hands of the farmer. In a state of nature the hog is a cleanly animal, keeping his home and surroundings in perfect sanitary condition and living himself on herbs, roots and mast of the great forests and swamps, which are his native haunts. Under domestication, however, he is forced to submit to the conditions which indifferent and unsympathetic owners have provided for him. These surroundings are frequently of the most unsanitary nature—in fact, filthy and inhuman beyond expression. Where such conditions prevail it is no wonder that disease of various kinds should

find a fertile soil in which to grow, and every farmer who has an unsanitary hog house should remedy the defect at once, and then this first question will be easily settled. The scarcity of foodstuffs is a poor plea for the non-development of swine husbandry when hogs can be provided with grazing crops for nine months of the year. These crops may also consist largely of legumes, and if a small amount of corn is fed in conjunction with grazing crops, hogs weighing from 200 to 300 pounds can be made in the course of the summer's grazing, by the consumption of 10 to 15 bushels of corn, and in addition the kitchen slops and by-products of the dairy, which are, or should be, available on every Southern farm. With the possibility of having the foodstuffs—should inclination or desire impel the owner—this can no longer be brought up as a reason for the neglect of this very important industry. The small gains made by the animals are attributable, as the table

RATION.	Beginning—Lbs.		End—Lbs.		Corn Meal consumed—Lbs.		Gain per head per day—Lbs.	Cost of feed per lb. gain—Cents.	Per cent of good meat.	Value of manure.	Profit from feed %.
Group I.—Water	10.	16.	4.6	4.5	1.	3.9	73.6	\$2 06	\$ 7 16		
Corn meal	6	8.									
Group II.—Skim milk	18.	40.	2.1	13.3	2.3	4.2	78.5	4 12	9 47		
Corn meal	6.	8.									
Group III.—Skim milk	12	.....	1.7	13.1	2.2	3.4	76.2	3 80	12 62		
Corn meal	4	6.25									
Whey	40.	.....								
Wheat meal .....	.....	1.75									
Group IV.—Skim milk	8.	26.75	2.9	16.4	2.	5.2	77.7	2 15	3 50		
Pea hay	4.	1.5									
Corn meal	2.66	5.5									

already referred to shows, first, to the use of improper rations; and, second, to inferior quality of the stock. The small gains are due quite as much to a failure to understand how to combine rations suitable for the nourishment of the hog so as to obtain the most rapid and economical gains, as to the quality of the stock. Nearly all the improved breeds of swine do well in the South, and some animals of good quality of the several leading breeds are to be found in almost every community. As the hog increases so rapidly and pure bred animals of high quality can be purchased for such a small outlay of capital, there is no reason why the quality of stock in itself should not be remedied at a very early date. With these factors settled, the farmer should then devote all his energy and attention to the study of how to best combine foodstuffs to obtain the cheapest gains. That this matter can be readily mastered by any person of average intelligence no one will question, but that the subject of feeding in itself is not only worthy of attention, but should receive the most careful consid

eration at the hands of the farmer, only comparatively few people fully realize. In order that this may be brought home more forcibly to the reader, notice that four different rations, such as may be available on the average Southern farm, were fed to four groups of hogs with very marked results, so far as the financial end of the matter was concerned. The first group received corn meal and water; the second, skim milk and corn meal; the third, skim milk, corn meal, whey and wheat meal; and the fourth, skim milk, pea hay and corn meal. The ration fed to Group I is the one commonly fed on the Southern farm. The animals receiving this ration consumed 4.6 pounds of corn meal for a pound of gain; when skim milk was substituted for water, only 2.1 pounds of corn meal were required for a pound of gain; and where corn meal and a small amount of wheat meal were added, only 1.7 pounds of corn meal were required for a pound of gain. Thus it is evident that a bushel of corn fed with certain adjuncts which are waste products on the average farm, can be made to produce twice as many pounds of pork. It is also noteworthy that where this ration was fed, the gain per day was 2.3 pounds, whereas with corn meal and water it was only one pound. The addition of wheat meal to the ration, while producing a gain almost equal to that from corn meal and skim milk, made a better quality of bacon, as the fat and lean were better intermixed. In Group IV an endeavor was made to feed pea hay, but the results were unsatisfactory, as the animals would not eat enough of the hay, even in a finely chopped condition, to be satisfactory. Notice that while the amount of grain consumed and the gain per day were materially affected by the combination of certain foodstuffs, the slaughter test was also affected, the largest amount of good meat being obtained from a ration containing skim milk and corn meal. This is due to the fact that corn meal of itself is too fattening and does not build enough muscle or tissues in which to store the fat. The skim milk, on the other hand, is a protein or muscle-building food, and hence the combination of the two gave a greater proportion of more desirable meat than the use of corn meal alone. These tests bring out some very important facts, which are worthy of consideration by every person interested in swine feeding in the South. Finally, notice that the combination of foodstuffs also affected the value of the manure, a fact of the greatest importance to the Southern farmer, whose soils need liberal supplies of humus; and more important than all the rest, is the fact that combinations of foodstuffs affect profits very materially. The largest profit was made by Group III, \$12.62, which received corn meal, wheat meal, skim milk and whey, and the next largest profit was from skim milk and corn meal; the third largest from corn meal and

water, and the least profit by Group IV, which received skim milk, corn meal and pea hay. As already noted, the animals in this group would not eat the pea hay, and as it constituted a considerable portion of their ration, this accounted for their failure to make a larger profit. The addition of some by-products of the farm with Group III made the profit from feeding this group \$5.46 greater than with Group I, while the addition of skim milk to Group II made the profit \$2.13 greater than with Group I. The writer knows certain creameries in the South where the skim milk is allowed to go to waste, its virtue for hog production not being realized, or else the creamery owners would establish swine feeding pens at a suitable distance from their plant, and utilize this most valuable by-product. Also on many farms this nutritious and cheap pork producing element is allowed to go to waste. In view of these experiments, this is an unpardonable waste, and one that every Southern farmer should make haste to correct, for it would in many instances point the way to the profitable production of pork.—A. M. Soule, in *Practical Farmer*.

DORSET SHEEP AND YORKSHIRE HOGS IN VIRGINIA.

Editor Southern Planter.

I have read Mr. Arbuckle's letter announcing his importation of Dorset Horn sheep for prominent members of the Continental Dorset Club. I am quite at one with him in his estimate of the Dorsets in general, and of the flock of Mr. W. R. Flower in particular. Virginia, however, must be added to his list, for I have purchased for the flock at Morven Park fifteen of Mr. Flower's yearling Dorset ewes, which are expected to lamb down in November, and also his unrelated Dorset ram that took a first prize at the English "Park Royal" show.

As it seems to be the proper thing to keep you advised upon such matters, I may add that I have also purchased for the piggery at "Morven" from the herd of Mr. Sanders Spencer in England some large white Yorkshire pigs. These swine are all of course registered, and are headed by the prize-winning large white Yorkshire boar, "Holywell Huddersfield." The above animals are now en route, and I am sure that all lovers of these grand breeds will wish them a safe voyage.

WESTMORELAND DAVIS.

Morven Park, by Leesburg, Va.

When corresponding with advertisers, do us the kindness to mention THE PLANTER

The Poultry Yard.

EXPERIENCE IN FEEDING MILK.

The great benefit to be derived from the feeding of milk to fowls seems to be almost entirely ignored by the majority of poultry keepers. Where corn is the principal ration, as is the case on the majority of farms, a liberal supply of milk to balance up this ration will be found most profitable in the return of eggs. If hens are fed all the milk they can be induced to drink along with a corn ration, great gains can be expected in the egg-production. Last year we fed our fowls largely on corn, especially our laying hens, and for a balance ration we supplied all the milk we could possibly spare, and the result was better production of eggs than in any previous winter. On farms where there is a good supply of milk there should be no reason for not receiving a large number of eggs.

Where milk is supplied liberally, animal food in the form of cut green bone can be reduced, as milk furnishes largely the elements found in bone. Milk and corn make a much better combination than milk, wheat and oats. Feed the layers corn and milk alternately with green food in the shape of cabbage or prepared clover, and you have an almost ideal food for egg-production. Milk can be given in almost unlimited quantities without any serious results following. It very often happens that feeding meat too freely produces diarrhea, which checks the supply of eggs, but in feeding milk we do not experience such unfavorable results. In the country where it is not convenient for the farmer to get bone from the butcher, he can supply milk instead, which is almost or quite as good as bone. We know of a lady who feeds corn and milk the year round to both young and old, with very satisfactory results, using the sour milk (after boiling it) in mash with decided benefits, especially with the young growing stock. Next year we shall use boiled sour milk, wheat bran and corn meal, sprinkled with pulverized charcoal for our young chicks, believing we will have a food that will be wholesome, palatable and inexpensive compared to some of the prepared chick foods now on the market. At the same time we shall provide skimmed milk as we have previously done for the fowls to drink, believing we can realize more from the product in feeding in this way than any other way we could feed it, realizing that it will be practically impossible to get too much milk before our fowls.

If a patch of wheat or rye is sown close to the poultry run to supply green stuff naturally for the fowls during the winter months, and they are supplied constantly with milk, we stake our all on it that eggs will be plentiful, stock healthy and vigorous, with the assurance of strong fertility in eggs when the breeding season opens up.

J. C. CLIPP.

FEED BULKY FOODS.

Mr. P. H. Jacobs (*Farm and Fireside*) quotes a leading and successful poultryman as saying that he made it a rule to feed his hens the same as he did his cows—namely, feeding grain, hay, ensilage, cooked roots, and adding to the rations of the hens ground meat and bone, good clean bone meal also being given to the cows. There is no reason, says Mr. Jacobs, why poultry should be fed almost exclusively on concentrated foods. Such practice is not economical, is not the best mode, and is sometimes injurious. If horses and cows were kept on corn or ground grain, to the exclusion of that which is bulky, they would soon fail to give satisfaction to their owners, and this is so well known to farmers that none of them attempt to keep stock without supplying grass in summer and hay in winter. The hens will eat grass, and they will also eat hay in winter, provided it is chopped for them, and especially if it is steeped in water and softened. They prefer coarse food to grain exclusively, and they lay oftener with such food, and keep in health. The hens on farms where food is given but three or four times a week can get all they wish by consuming the herbage of the fields. Some farmers sow rye in the fall and oats in the spring for the hens, and find that it pays them to do so. The gizzard works in its grinding capacity to its best advantage when the hens are provided with a variety of food, and better digestion is thereby secured. It is cheaper to use bulky food with grain than to confine the hens to concentrated materials, and they will produce more eggs by such treatment.

PREPARING FOR WINTER.

For the period which elapses before the fowls are housed for the winter one can find plenty to do. One of the essential things after thoroughly preparing the house for the birds is to prepare the birds for the house. If the house is free from lice, see that the birds are also, before they make it their permanent home. It is an excellent plan to find out the spots where the hens dust outdoors and sprinkle a quantity of good insect powder in these places to assist in getting rid of the vermin. Then look them over for scaly legs.

This may not cause them much trouble during the summer while they have had plenty of exercise, but will make them very uncomfortable during the winter. Kerosene oil is good for this trouble, but crude petroleum is better. Take an old toothbrush, saturate it in the crude petroleum and brush the scaly legs thoroughly. Then saturate a cloth with the liquid and bind it around the legs. The fowls will not like this, but the cloth will stay on a day or two and do them much good.

The Horse.

NOTES.

A gratifying announcement to breeders of Maryland and Virginia especially, is that a steeplechase event has been opened for three-year-olds by the Washington Jockey Club, to be known as the Junior Steeplechase, which will be run about November 22d at the fall meeting at Washington, D. C. The National Hunt and Steeplechase Association, President S. S. Howland, Dr. James Kerr and others who take an active part in the counsels of the Club, will undoubtedly receive the thanks and unstinted praise of many steeplechase breeders for their promptness in recognizing and meeting the demand for this new stake. Here are the conditions:

Washington Jockey Club of the District of Columbia, Race course and office during meetings, Benning, D. C.; office in New York, 571 Fifth avenue, "The Windsor Arcade": Autumn Meeting, 1904.

The Junior Steeplechase for three-year-olds. Subscriptions to close on or before Monday, October 10, at the office of the Washington Jockey Club, New York. Horses to be named Thursday, November 17, and race run Tuesday, November 22, at Benning, D. C.

Conditions.—First running of the Junior Steeplechase for three-year-olds. By subscription of \$10 each at time of entry, \$10 additional at time of naming, and \$10 additional for starters, all to the winner, with \$900 added, of which \$200 to the second, \$100 to the third. To carry 140 pounds, allowances as by rule to mares and geldings. Winner of a steeplechase or hurdle race to carry 7 pounds extra. Horses that have never started allowed 3 pounds.

Fifteen subscriptions, or the race will be declared off. No limit to the number of subscriptions, which may be transferred at the office of the Clerk of the Course, Benning, D. C., by 5 P. M. of Monday, November 21, and must be accompanied—if not previously paid—by the amount of the subscription, the entry fee for the horse, and starting fee. About two miles. For information, or entry blanks, apply to

H. G. CRICKMORE, *Clerk of the Course.*

571 Fifth Avenue, New York, N. Y.

At a meeting of the Upperville Colt and Horse Club, held a few weeks since at Upperville, Va., the resignation of Col. R. H. Dulaney was offered and accepted upon his special request, as he had served the Association as president since its formation more than fifty years ago. The new officers were elected as follows: President, Willie Fletcher; Vice-Presidents, R. Hunter Dulaney and Robert Neville; Secretary and Treasurer, P. S. Gochnauer; Assistant Secretary, B. B. Gochnauer. Executive Committee—Colonel R. H. Dulaney, George Frasier, Joseph A. Gibson,

A. B. Lawson, Lewis Strother, W. H. Carter, Willie Fletcher, R. Hunter Dulaney, Joshua Fletcher, H. M. Luttrell, C. M. Peach, H. Rozier Dulaney and Robert Neville. The following resolution, drawn by a committee appointed for the purpose, was adopted "We, the members of the Upperville Colt and Horse Club, desire to tender to our retiring President, Colonel R. H. Dulaney, our thanks for the many years he has served the horse interests in this part of Virginia, as President of the oldest horse show in the county.

"ROBERT NEVILLE,

"A. B. LAWSON,

"H. M. LUTTRELL.



The bay mare Lamp Girl, 2:09, who holds the record for Virginia-bred trotters, was recently sold by the Kentucky Sales Company at Lexington to W. F. Dickerson for \$350. Mr. Dickerson also purchased her weanling, Tramp Girl, a bay filly by The Tramp, for \$180, to whom the dam had been bred in 1904. Later Lamp Girl was sold among other trotters for export to Julius Pajonech, of Charlottenlund, Copenhagen, Denmark, who shipped them at once to that far-off land. Lamp Girl was foaled 1893 and bred by W. C. West, Onancock, Va. She was sired by Walker Morrill, 2:55, dam Bertie, dam of Gold Burr, 2:13½, by Signet, 2:26½. After being campaigned extensively as a trotter, Lamp Girl was shifted to the pace and promised to make a sensational performer at the lateral gait, but went wrong, and was retired to the stud of the late R. H. Plant, of Macon, Ga., by whose estate she was consigned to the sale at Lexington.



The Virginia Circuit of horse shows for the season 1904 met with success from the start, and was accorded generous patronage and support. Commencing at Alexandria in May, open air shows followed at Fredericksburg, Leesburg, Culpeper, Manassas, Orange, Charlottesville, Staunton, Harrisonburg, Front Royal, Berryville and Warrenton. Nothing was scheduled for the month of September, but the more pretentious shows at Lynchburg, Richmond and Norfolk came off during successive weeks in October, the dates for Lynchburg being October 10-15; Richmond, October 18-22, and Norfolk, October 25-29. A good show was provided by the management at Lynchburg, but attendance was not up to expectations. The Richmond affair was a success both in point of attendance and the grand lot of exhibits, while for an initial effort the Norfolk people did well, and taken on the whole the outlook for the Virginia Circuit of horse shows during the season of 1905 is highly encouraging.

BROAD ROCK.

Miscellaneous.

DEATH OF MAJOR H. E. ALVORD.

It is with very sincere sorrow that we have to announce the death of Major H. E. Alvord, the Chief of the Dairy Division of the Bureau of Animal Industry, which happened very suddenly at the St. Louis Exposition on October 1st. Major Alvord had been for many years a resident of this State, having a fine dairy farm at Lewinsville Loudoun county. Previous to his appointment as Chief of the Dairy Division, Major Alvord was Director of the Maryland Experiment Station, and had had a long practical experience as a dairy farmer. He was recognized as one of the leading dairy experts of the country, and was a constant contributor to the agricultural press and a frequent speaker at Farmers' Institutes. He was often a contributor to our columns, and whenever we called on him for help always most cheerfully responded. We held him in the very highest esteem, and can cordially endorse what was said of him recently in the *Country Gentleman* by an old colleague, Prof. Pearson, of Cornell College. He said:

"I became very much attached to him. He had many strong traits, as well as rare ability as an executive. I never saw him lose his temper; no matter how great a provocation, he always remained cool and considerate. He was generous almost to a fault and exceedingly unselfish. He was modest, and never strove for personal recognition where this was not necessary for the furtherance of some object in which he was interested. There stand to his credit a very large number of kind and helpful acts which were done quietly and which will never be known to the public. In his official work he never hesitated to do what seemed to him right, regardless of what the general opinions of his acts would be. Sometimes his motives were misunderstood, but this made no difference if he felt he was on the right course. Usually it did not take long for those who opposed him to see their mistake and offer their support. Maj. Alvord's place cannot be filled. His death is a severe loss in the agricultural and especially the dairy world."

THE VIRGINIA STATE HORTICULTURAL SOCIETY.

We are informed by the secretary, Mr. S. L. Lupton, that the annual meeting of the society will be held at Front Royal, Va., on December 13 and 14, 1904. Special efforts are being made to make this the most attractive and instructive meeting ever held

by the society. We trust that fruit growers throughout the State will make note of the date of this meeting and make an effort to attend, and thus show their practical appreciation of the good work which the society has done since it was established. It has secured for shippers of fruit everywhere in the State terms which no individuals could have secured for themselves, and it is of vital importance to maintain the strength of the organization, so that it may continue its ability to exercise a wholesome pressure upon the transportation companies.

IN NOVEMBER.

Editor Southern Planter:

The work on the farm for November consists mainly in preparing for winter. This month, especially the first part of it, is generally open and more pleasant than the earlier autumn, and work may be done in much more comfort. Who does not remember the days of Indian summer, which comes in this month? Whence comes all the smoke that obscures the sunlight? The days are just warm enough for comfort, and the appearance of everything reminds us of the declining year. We are filled with a sadness tinged with melancholy, or, in the words of a famous poet, our feelings

"Resemble sorrow only,
As the mist resembles rain."

When the rain comes the air is again made clear. The blue smoke is seen curling in wreaths above the chimneys of the farm houses, everything is still, and quietness reigns supreme. The waning sunshine covers the brown earth, the shadows are growing longer, as they point northward, reminding us that winter is coming apace from the regions of everlasting frost.

If you be a farmer, look around you, and see that yet a little while you are to have the kindly days of November with you, and prepare for the rigors of the season indicated by the northward pointing shadows. Are your outhouses in good repair? Perhaps you have risen early this morning, as the nights are growing longer, and you have time to sleep. What are you going to do to-day? Does the barn need repairing? You step out into the yard and glance in the direction of the barn; yes, there is some work to be done there, and there the cow stands waiting for her breakfast. She has, doubtless, seen

the hay in the loft, and she knows that the master will not forget her. You will go at once and feed her, while your wife, and perhaps daughters, too, are preparing your own breakfast, the delightful odors of which make you think that life is worth living after all.

Lay in a liberal supply of fuel, and if your woodlands afford it, let it be wood; for the crackling blaze from the logs will cheer you as you sit around the fireside during the long winter evenings. Yes, go into the woods, and as you ply your axe or saw, you will hear the tapping of the picus upon the trees around you, and you may know that he, too, is preparing for winter.

This month is *blot monath*, as the old Anglo-Saxons termed it—the time for dispatching your porkers and filling your larders. FRANK MONROE BEVERLY.

Osborn's Gap, Va.

STATE FAIR—ROANOKE, VA.

The Virginia State Fair, held in Roanoke October 10th to 14th, was a decided success. The Roanoke people appreciated the efforts put forth by the Association, and turned out from the least even to the greatest to see the many attractive features of the fair. The races perhaps drew the attention of the masses, while many who were interested in agricultural pursuits came to see the beautiful and well-filled exhibits of live stock, which was indeed creditable to any organization of its kind. Five breeds of cattle were represented, besides grades of the various breeds.

In Herefords, S. W. Anderson, of Greenbrier, W. Va.; Mr. Huxley, of Bunker Hill, Ind.; Haines L. Morgan, Saltville, Va.; Virginia Experiment Station, Blacksburg, Va., and Murray Boocock, Keswick, Va., exhibited. These herds making strong competition in all classes. Mr. Huxley and Mr. Anderson came well prepared to take away most of the best premiums, while the Virginia Experiment Station, Murray Boocock and H. L. Morgan won in a few instances. These latter herds showed careful breeding, but lacked the condition necessary for the occasion. Mr. Anderson had sweepstakes bull, while Mr. Huxley won first on aged bull.

In Shorthorns, only two herds were in the battle—the Virginia Experiment Station and Mr. Lucas, of Staunton, Va. The best prizes fell to the Virginia Experiment Station in all classes except yearling heifer.

In Aberdeen Angus, only two herds came out—

Wessenger & Son, of Kentucky, and the Virginia Experiment Station. Mr. Wessenger's herd was too much for the V. P. I. this time, having brought out a number of high-priced animals. Both herds were indeed creditable, and showed up beautifully the true characteristic "Doddie," with his even and smooth finish.

In the dairy breeds the Virginia Experiment Station again came to the front with some useful and typical Jerseys and Holsteins. Hollins Institute brought out a few Holsteins, but were compelled to take second place.

In sheep the Virginia Experiment Station was the only exhibitor, having a nicely-selected bunch of Dorsets.

In hogs, Dr. Kirk, Roanoke, was the important exhibitor, having some beautiful Berkshire of gilt-edge breeding.

The Fair was a decided success, and the prospect for the Virginia Fair in the future is indeed encouraging.

Much of this live stock was taken to Wytheville and Hagerstown, then to the Southwest Virginia District Fair, held at Radford, Va.

Other interesting features of the Fair were the large Shorthorn ox, weighing 3,200 pounds, and a small Midway, which contained sideshows, beer tents, and various attraction of this nature. A. P. SPENCER.
..Montgomery Co., Va.

DISTRICT FAIR—RADFORD, VA.

The great District Fair, held at Radford, Va., October 18th to 21st, inclusive, was truly an Agricultural Fair, and the finest herds of live stock ever seen here were brought together. Many new stalls were erected, yet those who brought along nurse cows were compelled to tie to the fence to make room for the exhibition cattle.

In Herefords, S. W. Anderson, Blakes Mills, W. Va., came again with a beautiful and well-fitted herd, some of which have been on the circuit for months, and also were exhibited at St. Louis, and in many cases were successful competitors there. Clem Graves, Bunker Hill, Ind., had also a well-filled herd of "White Faces," and the best places in this breed came to these two herds. Other exhibitors in this class were A. Meschendorf, Forest Depot; Mr. Osborne, the Virginia Experiment Station; Mr. Howe, Dublin, Va. The class as a whole was indeed a stiff one, and those who came with animals in low

flesh found they were not among those who won prizes. Many of these animals were of very excellent breeding and lacked only condition.

In Shorthorns there was a very strong class. Exhibitors were the Virginia Experiment Station, Major James T. Cowan, Cowan's Mills; Major W. W. Bentley, Pulaski; William Warfield, Lexington, Ky.; Mr. Bowen, Tennessee, and Mr. Lucas, Staunton, Va. Most of these cattle showed excellent breeding, but in too many cases a lack of condition was noticeable. The bull classes, cow classes and calf classes were very strong, and it was a difficult task for the judge to place all in their proper order.

A Shorthorn sale was arranged for, but there being no bidders, the sale was called off.

In the Aberdeen Angus class, Wessenger & Son, Kentucky, and the Virginia Experiment Station were the only exhibitors, the Kentucky herd proving too strong for the Station, and, consequently, winning best places. Mr. Imboden, an expert judge, was selected to make the decision on all breeds, and did so to the satisfaction of nearly all concerned. A battle among the breeds was arranged for among the various exhibitors in the cow class alone. This prize went to S. W. Anderson on his World's Fair Hereford cow. The Shorthorns, however, did not compete for this special premium.

In front of the grandstand some good racing and jumping was seen; also a race of an ostrich against a horse, which was an attractive feature, and a trained dog driving a horse were events enjoyed by many not interested in cattle. All that was needed to make this Fair a great success was slight rain to lay the dust and good weather following. The management purpose to make this the most important cattle show in Virginia, and this being a central spot for cattle-breeders to assemble, all that is required is good management and the patronage of the public, with the Southwest Virginia farmers to co-operate.

Montgomery Co.; Va.

A. P. SPENCER.

PERSISTENT VITALITY OF SEEDS.

Ordinary discussion as to seed vitality, or the germinative forces of seeds, is consequent upon the prevailing idea that their tenure of life is very short; and so it is, under ordinary conditions, but the observing gardener every year has brought to his notice the sprouting of weed seeds, the parent crops of which grew years long past. As, for example, the weeds following the turning down of a 26 or 30 year old pasture, weed seeds not blown there after plowing,

nor carried there by birds, but the seeds which have been resting dormant in the soil since it was last in cultivation.

This voluntary growth of weeds is so common that little attention is given to it; but when a seed planter, a farmer, market gardener, or cottage gardener, observes plants not sown by him growing among his sown crops, he at once cries "fraud!" He claims he was sold a mixed lot of seeds.

On Bloomsdale Farm we have every summer noticed this sprouting up of plants from a previous crop; but this year, possibly on account of the continued rains, it has been particularly observable. For example, a ten-acre field of grass, which had been undisturbed for five years, when this July plowed under and sown in Valentine beans, produced among the beans a very excellent crop of German kale, almost enough to stand; but it was ten years ago, or in 1894, that a crop of German kale was grown upon that field.

A field drilled in okra is now full of radish, and it is three or four years ago since radish was drilled on that field.

Turnip seed is especially likely to remain dormant for six or seven years.

We have now a six-acre patch of beans on which was grown, five years ago, a crop of seed of Seven Top turnip, and, of course, in its harvesting a portion of the seed was scattered out on the ground. A part of that seed in the earth remained fully vital until this summer, and to-day the bean crop referred to is full of this unusual variety of turnip, clearly indicating that the turnip seed has remained dormant in the soil over a period of four summers. This variety of turnip is so distinct that its presence in the bean field can be accounted for in no other way than already indicated.

Mustard seed, under certain conditions, is particularly tenacious of life, there being frequent examples of it appearing in a field after having apparently been eradicated for a period of ten or twenty years.

Farmers and gardeners not familiar with this fact of the persistent vitality of seeds, frequently charge seedsmen with selling seeds mixed with mustard; this charge, ninety-nine times in a hundred, is due to a clear case of ignorance on the part of the claimant.

Strangest of all of our field observations this year is as to a growth of Valentine beans, which appeared where a lot of beans were dumped in 1901, and since then subjected to all the changes of heat, cold and moisture, winter and summer. Beans, however, when kept under favorable conditions, are long-lived, there being well-authenticated instances of their sprouting 75 years after their harvest; while in the case of rye, 120 years have been known to elapse between harvest and sprouting. We do not give much credence to the tales of travelers, of wheat or Milo maize sprouting taken from the Catacombs or from mummies. A

wise guide always has some good grain in his pocket, smoked, of course.

The writer firmly believes that much seed condemned as unvital, or of low vitality, as proved in comparative tests, would, nevertheless, sprout under certain peculiar and odd circumstances.

All seedsmen, wherever located, have had an experience in the case of charges of selling mixed seeds, and so, possibly any one might occasionally, but unknowingly do; for no proprietor or his employees, especially, are infallible; but generally the complaint is, no doubt, due to the germination of seeds and vegetation of plants, the like of which were grown on the same ground years before.—*Burnet Landreth.*

We recall a case in the "Old Country" showing the persistent vitality of one kind of seed even more wonderful than any of those cited by Mr. Landreth. An old pasture field which had never within the memory of the oldest inhabitant been plowed was broken up and seeded with oats. The oats came well, but in a short time were completely smothered out by a weed called charlock, which is like a wild rape plant having a seed so like rape seed that they cannot be distinguished from each other. The whole field was one mass of this weed. Never a plant of the weed had ever been seen in the field before whilst it was in pasture; in fact, it never grows in a grass sod. The oat seed was perfectly clean seed. Evidently the field had grown this weed when under cultivation before, and the seed had been buried when the land was put down in grass. There were numbers of farmers in the neighborhood who had known the field as a pasture field for from 50 to 75 years, and never seen a charlock plant in it. This shows for this seed an astonishing persistent vitality. Clover seed has a similar persistent vitality. It will often come thickly on a field which has been unplowed for 20 years.—Ed.

THE FALL CROPS IN TIDEWATER VIRGINIA.

[From Southern Planter.]

Just now great loads of green peas and beans (snaps) are going north daily. The farmers' wagons come rolling into the city, piled high with the half-barrel baskets which contain these crops.

The peas and beans (second crop) were planted the last of August or first week in September, and our farmers have been shipping the crops to Northern markets during the past three weeks, and will finish before the first frosts, which usually come in November.

We may remark, in passing, that, in round num-

bers, a ten-cent freight rate transports a basket of peas or snaps from this seaport to nearly twenty million consumers.

We have had no frost, as yet this fall up to date (October 18th). As soon as the fall crops of peas and beans are marketed the ground is at once fitted for cabbages to be set out in November and December. The kale and spinach crops, sown early in September, look well, but need a little rain. October so far being quite a dry but a very pleasant month, only lacking a little in moisture.

These fall crops are covered with but a thin layer of earth when planted, and need frequent showers to start them off in good shape. Our trucking belt looks better in November, December and January than it does in August, September and October.

September gave us a mean monthly average of 72 degrees, which was one degree higher than the average for the past thirty-four years. The September rainfall was 4.02 inches, against an average of 4.19 for the past thirty-four years.

September gave us 24 beautiful, warm Sunny days—fine "Sunny South" weather.

October so far has also been very fine. Rain fell in September on six days—namely, on the 4th, 5th, 14th, 15th, 21st and 27th. We seldom feel like quarreling with our "Weather Bureau People," as they seem to hit, fit, suit and please us nicely.

We have lately had the pleasure of reading a little pamphlet published by Dr. Plecker, a re-print from the New York Medical Record, upon the "Climate of Eastern Virginia." We wish the Doctor's little pamphlet could be placed in the hands of all who are studying the question of climate and its relation to health.

Fall work is well in hand, although it is too dry to plow. The sweet potato crop is likely to be a little short.

A. JEFFERS.

Norfolk, Va.

COST OF PRODUCING MILK.

At a number of experiment stations records were kept to determine the cost of producing milk. At four of the stations it cost 55 cents to produce 100 pounds. This made the cost of one pound of butter fat 13.3 cents. Milk was produced at the lowest cost during the summer and at the highest during winter.

THE Southern Planter

PUBLISHED BY

THE SOUTHERN PLANTER PUBLISHING CO'Y.

RICHMOND, VA.

ISSUED ON 1ST OF EACH MONTH.

J. F. JACKSON,
Editor and General Manager.B. MORGAN SHEPHERD,
Business Manager.TERMS FOR ADVERTISING.
Rate card furnished on application.

TERMS FOR SUBSCRIPTION.

THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at 50c. per annum; all foreign countries and the city of Richmond, Va.

WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known. Particulars of Experiments tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

NO ANONYMOUS communications or enquiries will receive attention.

REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

THE DATE ON YOUR LABEL shows to what time your subscription is paid.

SUBSCRIBERS failing to receive their paper promptly and regularly, will confer a favor by reporting the fact at once.

ALWAYS GIVE THE NAME of the Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

Address THE SOUTHERN PLANTER,
RICHMOND, VA.

Entered at the Post-office, Richmond, Va., as second-class matter.

DETAIL INDEX TO ENQUIRER'S COLUMN.

Utilizing Bones	728
Value of Broom Corn Stalk and Chess or Cheat as Feed.....	728
Early Irish Potato Growing in Tidewater Va.	728
Preparing Pea Fallow for Wheat..	729
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Lump on Calf—Japan Clover....	729
Lime	730
Sores on Mule	730
Preparing Land for Corn—Implementation Dealers—Spring Wheat....	730
Wheat and Oats as Feed.....	730

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

PUBLISHER'S NOTES.

To Advertisers.

We wish to impress upon our advertisers the necessity of sending in all advertisements and matter pertaining to advertising, by the 25th of each month. If it can be sent before that date, so much the better for both of us. There is not a month that passes that we do not leave out somebody's ad. because of it reaching us too late.

WITH THE ADVERTISERS.

J. W. Atkinson & Co. are advertising "paints that stay painted." This company is in a position to do business with farmers and is anxious to get into communication with parties who need paint for any purpose.

J. B. Watkins & Bro., the well known nurserymen, have some splendid, vigorous strawberry plants, which they are selling at low prices.

Dorset sheep and Hereford cattle of good breeding can be had of H. Armstrong, Lantz Mills, Va.

Some finely bred Poland China hogs are offered by Mr. W. B. Payne, Crofton, Va. He advises us that the demand for stock is good, and that he recently made shipments to far-off Texas. Look up his ad. and write to him for prices.

Knight & Jetton have a fine collection of jacks and jennets, which they are offering our readers. Refer to the ad. elsewhere.

The Chattanooga Nurseries are making a special offer on peach trees. Look up the ad. and write to them for catalogue and prices.

Mr. Ed. S. Schmid is advertising pets and all kinds of fancier's stock and supplies.

Pit games and Pointer dogs are advertised by Capt. Owen Swaffield. Refer to his ads.

Poll Durham cattle can be had of Mr. John S. Funk.

The Norfolk Farm Supply Co. has a seasonable card on another page.

W. E. Knight & Co. start the season's advertising with this issue. Jacks, jennets and stallions, of superior breeding, are offered.

Bargains in Berkshires are offered by Mr. W. Tally, of Beechenbrook Stock Farm.

Yager's Liniment, already well known to thousands of our readers, has an attractive ad. on another page.

Duroc Jersey hogs are offered by Mr. D. L. Robertson.

Some splendid Jersey cows, heifers and bulls are offered by Major A. R.

Poultry Supplies.

If you want eggs during the winter, you must feed Animal Foods, such as

Meat Meal,
Beef Scraps,
Blood Meal,
Bone Meal,

to take the place of the insects, worms, etc., which poultry get in summer. OYSTER SHELLS and GRIT are also prime necessities..

Write for Prices and Catalogue telling what you wish for Success and Profit with Poultry.

T. W. Wood & Sons, Seedsmen,
RICHMOND, - VIRGINIA.

We carry complete stocks of Cyphers' Incubators and Brooders, Poultry Foods, Egg Producers, Lice and Insect Powders, Poultry Remedies, etc.

Helpful Catalogue mailed free.

SAN JOSE SCALE

and other INSECTS killed by

GOOD'S

Caustic Potash Whale-Oil Soap No. 3

Endorsed by U.S. Dept. of Agri. and State Experiment Stations. This soap is a Fertilizer as well as an insecticide. 60-lb. kegs, \$2.50; 100-lb. kegs, \$4.00; half barrel, \$6.10. 3¢ per lb. barrel, \$5.10, 3¢. Send for booklet, JAMES GOOD, Original Maker, 989-11 N. Front Street, Philadelphia, Pa.

FRAZER

Axle Grease

Best in the world. Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand. Not affected by heat. **Get the Genuine.** FOR SALE BY ALL DEALERS.

"FUMA" kills Prairie Dogs, Woodchucks, Gophers, and Grain Insects. "The wheels of the gods grind slow but exceedingly small." So the weevil, but you can stop their grind "Fuma Carbon Bisulphide" as others are doing. **EDWARD R. TAYLOR, Penn Yan, N. Y.**



Krausers' Liquid Extract of Smoke

Smokes meat perfectly in a few hours. Made from luscious wood. Delicous flavor. Cleaner, cheaper. No smokehouse needed. Send for circular. **E. KRAUSER & SONS, Milton, Pa.**

BANK OF RICHMOND,

Main and Tenth Streets.

CAPITAL AND PROFITS, - - - \$1,134,938.14.

Special attention paid to out-of-town accounts. Correspondence invited.

Three per cent. interest allowed in Savings Department,

Compounded semi-annually.

Union Lock Poultry Fencing

As It Looks When Erected

Strongest and Best By Every Test.

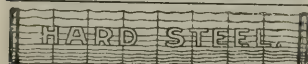
Has been fully tested by leading poultrymen. All heights (24 in. to 7 ft.) Has fine mesh for small chicks. Over 1000 rolls of this fence used on Lakewood Poultry Farm, New Jersey. You will be pleased with it.

Our Low Price will Surprise You.

We will ship from mills in Connecticut, Illinois and California and guarantee prompt delivery. Catalogue of Farm and Poultry Fencing sent free.

Write Us What You Want. Do It To-Day.

CASE BROTHERS,
16-22 Main St., Colchester, Conn.



WIRE • FENCE

Heavy lateral wires, heavy hard steel stays, coiled spring wire, Sure Grip Lock. In strength, appearance and durability, the Hard Steel can not be excelled. Write for catalogue and prices. THE HARD STEEL FENCE CO., Cuyahoga Falls, O.

BROWN FENCE
Largest variety of wire. All sizes of Steel Wire. 18 to 35 CENTS PER ROD DELIVERED.
We also sell direct to farmers at wholesale prices. Best Spring, Barb and Soft Galvanized Wire. Write for Fence Book showing 20 styles.
THE BROWN FENCE & WIRE CO.,
Cleveland, Ohio

Genuine Spiral Spring Wire FENCES AND GATES
If your dealer does not have our goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency.

INTERNATIONAL FENCE AND F. CO.
Columbus, Ohio.

TRUSS AND CABLE
We are now in our new factory.
PRICES LOWER THAN EVER
Write for free sample etc.
Truss & Cable Fence Co., 82 Duane Ave., Cleveland, O.

PAGE

DON'T YOU WANT TO KNOW
about the better quality of Page-Wire and our more practical construction of fences? Catalogue free. **PAGE WOVEN WIRE FENCE CO.**, Box 512, Ad-ian, Mich.

WIRE FENCE at Wholesale. A 4 1/2 inch stock fence 29¢ per rod. Send for price list and FREE catalogue of Wire Fence and all line of Fence Supplies.
W. H. MASON & CO., Box 80 Leesburg, Ohio.

Venable, Jr., at very low prices. We suggest that you refer to his ad. and write him for further particulars.

Genuine Peruvian Guano as well as fertilizer chemicals can be had of Smith-Davis Co., Wilmington, N. C.

We invite attention to the change in the ad. of the Imperial Fruit and Stock Farm.

Dr. D. M. Kipps is offering some splendid Shorthorn cattle.

Look up the ad. of W. R. Harrison & Co., in which is offered the well known line of Tornado ensilage and feed cutters.

Mr. I. S. Eberly has some very choice Shorthorn youngsters for sale at very reasonable prices.

Among the new advertisers in this issue is Mr. Dorr Clark, who is offering English Berkshires of the very best breeding obtainable.

Look up the ad. of Percy L. Banks, Norfolk, Va.

Cottage Grove Stock Farm guarantees to please with the Berkshires it offers. See the ad.

The J. Stevens Arms & Tool Co. has a striking ad. on another page. Remember the boy's birthday and give him a Stevens' Rifle.

The Temple Pump Co. has a couple of ads. in this issue to which we invite attention.

The Brown Fence and Wire Co. is a new advertiser in this issue. Look up the announcement.

The Acme Harrow ad. makes its usual appearance this month. Send for some literature about it.

The prize winning Prairie State Incubator is offered our readers in this issue.

The Truss & Cable Fence Co. has something interesting to say to parties contemplating buying fencing.

J. F. Gaylord is advertising his Defender Spray Pump again this season. Inquire about it.

Smith—I woke up last night with a horrible suspicion that my new gold watch was gone. So strong was the impression that I got up to look.

Brown—Well, was it gone?
Smith—No; but it was going.

ELIZABETH COLLEGE, CHARLOTTE, N. C.

This college opened this fall with an increased attendance over previous years. This is an encouraging sign for higher education, as Elizabeth College has its A. B. degree course on a par with the Southern Universities for men. The Conservatory of Music is maintained and run on the plan of the Leipzig, Germany, Conservatory, under the able management of Harry J. Zehm. The Conservatory is a separate building in connection with the college, and is attracting wide attention on account of the high grade work done there.

All of the departments of the institution are headed by specialists who have enjoyed University training.

The Red Ripper HAY PRESS

Saves Time, Labor and Money.



THE RED RIPPER is the strongest, simplest and most durable hay press on the market; requires only one horse to operate; capacity, 15 to 20 full size bales (75 to 100 pounds) per hour. Costs less than any other good press and does more and better work than most presses costing five times as much.

Write for Free Illustrated Booklet.

SIKES MFG. CO., Helena, Ga.

BALE YOUR OWN HAY.
MILLET SORGHUM PEAVINES ETC.
WITH A "HANDY" BALER
THE STRONGEST, MOST POWERFUL, SWIFTEST AND LIGHTEST OPERATING HAND PRESS EVER PUT ON THE MARKET.
FINISHES ABSOLUTELY UNIFORM BALES STANDARD SIZE EITHER LIGHT OR HEAVY.
LITTLE GIANT HAY PRESS CO.
DALLAS, TEXAS.
WRITE FOR PARTICULARS CATALOG HANDSOME POWER PRESS & PYLE

CHAMPION COMBINED GASOLINE ENGINE AND HAY PRESS

at it for 30 years and right up-to-date. Presses of every style and for every purpose. If wanting a Baling Press write to **FAMOUS MFG. CO.** 722 RAILROAD AVE. EAST CHICAGO, IND.

"ELI" HAY BALERS.

38 styles and sizes.
The world's standard.
Work fastest, bales are tightest and shapeliest. Load easy to best advantage. Bales that so burn, insure safety and facilitate work. Steel and wood framing, heavy and strong. See catalogue free.
Collins Plow Co., 116 Hampshire St., Quincy, Ill.

LAWN FENCE
Many designs. Cheap as good. 32 page Catalogue free. Broom's Prices to Farmers and Dealers. Address: **COLLETS SPRING FENCE CO.** Box 7, Winchester, Ind.

BEATS ALL SCHEMES FOR FARM FENCE AND WE WANT AGENTS TO MAKE MONEY

B. B. FENCE CO., Peru, Ind.

FENCE STRONGEST MADE. Built strong chicken-tight. Sold to the Farmer at Wholesale Prices. Fully warranted. Catalogue free. **COILED SPRING FENCE CO.** Box 330, 42 Winchester, Indiana.

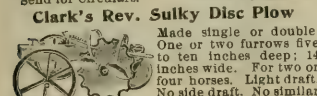
DOW FARM FENCE
PRICE AND QUALITY WILL PLEASE YOU. WRITE US NOW.
DOW WIRE WORKS, LOUISVILLE, KY.

Mention THE SOUTHERN PLANTER in writing.

Clark's Tools for Large Hay Crops



Clark's Rev. Bush Plow and Harrow cuts a track 5 ft. wide, 1 ft. deep. Connects the sub-soil water. It is an excellent machine for covering in sugar cane. Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.



Clark's Double Action Cutaway Harrow moves 15,000 tons of earth in a day. Send for Circulars.

Clark's Rev. Sulky Disc Plow
Made single or double. One or two furrows five to ten inches deep; 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we the C. G. & Co. guarantee them to kill wild mustard, charlock, hardhack, sunflower, milk weed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seedling to grass.

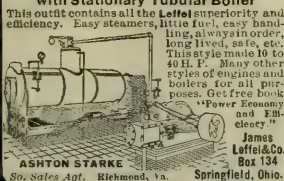
THE CUTAWAY HARROW CO.,
Higginum, Ct., U. S. A.

The Best Power

after all it is steam power. The best example is here shown in our

LEFFEL ENGINES

with Stationary Tubular Boiler



This outfit contains all the latest improvements and efficiency. Easy steaming, little fuel, easy handling, always in order, long lived, safe, etc. This style made 10 to 40 H. P. Many other styles of engines and boilers for all purposes. Get free book "Power Economy and Efficiency".
James Leffel & Co.,
Box 134
Springfield, Ohio.
Ashton Starke,
So. Sales Agt., Richmond, Va.

INTERNATIONAL KEROSENE ENGINES

Stationary, Portable, Marine, for Lighting, Pumping and Hoisting Outfits, all kinds of machinery, Launches and Boats. Send for catalogue and prices.

INTERNATIONAL POWER VEHICLE CO. 354 Third St., Macon, Ga.

RIFE HYDRAULIC ENGINE

Water By Water Power.

The pump that never stops. Raises water to any height, needs no attention, costs nothing to run. You can buy a Rife on 30 days free trial. Ask for our free catalogue.

RIFE ENGINE CO.
126 Liberty St., New York.

Defender Sprayer

All brass, easiest working, most powerful, automatic mixer, expansion valves, double strainer. Catalogue of Pumps and Treatise on Spraying free. AGENTS WANTED.
J. F. Gaylord, Box 82, Catskill, N. Y.



Mention THE SOUTHERN PLANTER in writing.

BUYING A FEED GRINDER.

The season when feeders will be scanning our advertising columns with a view to buying a good feed grinder is here. The matter of selecting a mill is important. It is a matter that should be attended to just once. A really good feed mill should last a lifetime. It is not uncommon to see feed grinders lying around on farms broken and discarded. There is no legitimate excuse for this. The reason is always the same: the mills were poorly made, not able to do the work, or were not adapted to the feeder's purposes. In most cases the fault lies with the maker of the mill, and yet the purchaser is himself to blame for not making investigation and selecting a mill, once for all, that is sure to meet every requirement.

Buying a feed mill is new business to many feeders. They have no experience or data to draw upon. Buying at random, as many do, it is little wonder that mistakes are made, and that so many mills are found "out of use." For this reason we wish to say a word about a mill that is advertised every year in our columns, the Quaker City, manufactured by the A. W. Straub Co., Philadelphia and Chicago. It is a mill that will give satisfaction to every one of our readers who is induced to buy it. They will not be buying experiments, for the Quaker City has been on the market for 38 years. That fact alone should be its highest endorsement. If it had not been a mill that was durable and met feeders' wants, it would long ago have been off the market. Of course, it has changed—been improved and kept abreast of the times. The mill as it is to-day with one hopper for crushing and grinding ear corn and another for grinding and mixing in all grains in desired proportions, all in one operation, is the mill we have in mind. It would not be up to date if it were not ball bearing. That accounts for its easy running, its fast grinding with little power. It is made in eight sizes, adapting it to small or large feeder. The mill is sent out freely on trial. Intending buyers are requested to put it in competition with others, and to keep the one that proves itself best suited to their needs. For the benefit, therefore, of any reader of this paper who is about to purchase a mill, and is not well advised, we recommend sending to the Straub Company for catalogue and making study of the Quaker City.

Robert B. Mantell tells of a clergyman who went fishing. He was perched in a precarious position when he got a bite, and in his excitement he fell into the stream.

He yelled lustily for help, and a farmer came along and pulled him out. "How did you come to fall in?" inquired his rescuer.

"I didn't come to fall in," replied the dripping preacher, "I came to fish."



Your Feeble Old Wagon

has many years' service left. Replace its shaky wheels with

ELECTRIC Metal Wheels.

Made to fit any axle, straight or staggered oval steel spools, cast in the hub, not riveted in the tire. Broadflats save rutting and draft. Any belt desired. Write for free catalogue for particulars.
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SPINDLE WAGONS, CARTS, etc. 8' different styles and grades. Finest material and workmanship. Get our prices and see our vehicles before purchasing. **SAFETY BUGGY CO., 1309 E. Main street, Richmond, Va.**

WE'LL PAY THE FREIGHT and send 4 Buggy Wheels, Steel Tire on, - \$7.25 With Rubber Tires, \$14.00. 1 mg. wheels \$7.44 in. tread. Top Buggies, \$28.75; Harness, \$3.00. Write for catalogue. Learn how to buy vehicles and send direct. Wagon Umbrella FREE. W. V. BOONE, Cincinnati, O.

—GREAT—

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FONTAINE SAFETY TUGS

prevent roses and white spots on horses' backs by regulating tension of girth as if it were elastic. Prevent buggy running against horse if breaching breaks. Prevents girth breaking and shafts wabbling. Made of best single leather. Outlast other tugs. Handsome in appearance. Pair sent postpaid \$1.50. Write for circular. **THE FONTAINE CO., Christie, Va.**

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HAND, HORSE OR STEEP POWER. 5 STOKES TO 1 REVOLUTION. SELF FEEDER. QUICK. COMPACT. BALE. SMALL FORM. PLANTING. FERTILIZING. SOWING. SEEDING. MILL DOGS. ETC.

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Free trial given at your home. If you don't grind more feed and do it easier, better and faster with a

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than any other, return and we pay all expense. We ask you to test on ear and shelled corn, all grains, and mixed feed stuffs. Three styles, four sizes, including small hand power. Write today and ask about our labor-saving **WOOD SAWS** in sizes 1 to 12 ft. p. Doublet tree.

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One Operation

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They are the fastest, easiest running, strongest



and most durable mills made. New double cutters; force feed; never choke. Four sizes, any power. **THE O. S. KELLY CO., 159 N. Lime St., Springfield, Ohio**

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One for ear corn, the other for small grain. Grinds ear corn and small grain at the same time or separately to any fineness. Mixes while grinding, also makes corn meal for table use. We furnish

**Special Plates**

for different kinds of grinding. Built in eight sizes, one to twenty horse power. Shipped on trial. Freight prepaid. Catalog free.

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Prepare your fodder stock will get all the nourishment. No waste if you use



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Prepare your stock eat it and thrive on it. With special attachment (50¢ extra), you have three machines in one for ensilage and all feed cutting. We make Tractor and Lateral Power Turners, Wood Saw, etc. Catalog mailed free.

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From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Graham Flour Hand Mills, Grit and Shell Mills. Send for catalogue. **WILSON BROS., Sole Mfrs., Easton, Pa.**

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Mention THE SOUTHERN PLANTER in writing.

REPORTS.

United States Department of Agriculture, Washington, D. C. Bureau of Chemistry. Bulletin 86. Arsenic in Papers and Fabrics.

Bureau of Entomology. Circular 56. The Most Important Step in the Cultural System of Controlling the Boll Weevil.

Bureau of Plant Industry. Bulletin 67. Range Investigation in Arizona.

Bureau of Plant Industry. Bulletin 67. The Commercial Status of Durum Wheat.

Bureau of Plant Industry. Crimson Clover.

Bureau of Plant Industry. Bulletin 51. Part IV. The Cultivation of the Australian Wattle.

Bureau of Statistics. Bulletin 29. Methods and Routes for Exporting Farm Products.

Weather Bureau. Climate: Its Physical Basis and Controlling Factors.

Farmers' Bulletin, No. 206. Milk Fever: Its Simple and Successful Treatment.

Farmers' Bulletin, 207. Game Laws for 1904.

Farmers' Bulletin, 209. Controlling the Boll Weevil in Cotton Seed and at Gineries.

Columbus (Ohio) Horticultural Society. Journal for September, 1904.

Idaho Experiment Station, Moscow, Idaho. Bulletin 45. Trap Rocks of Palouse Region as Road Material.

Kansas State Board of Agriculture, Topeka, Kan. Report for Quarter, September, 1904. Potato Production.

Maryland Experiment Station, College Park, Md. Bulletin 94. Systems for Keeping Milk and Butter Records.

Bulletin 95. The Character of Milk During the Period of Heat.

Nebraska Experiment Station, Lincoln, Neb. Bulletin 85. Feeding Experiments with Cattle.

Bulletin 86. Destroying Prairie Dogs.

New Hampshire Experiment Station, Durham, N. H. Bulletin 112. Experiments in Destroying Black Flies.

New York Experiment Station, Geneva, N. Y. Bulletin 248. Popular Edition, Keeping Qualities of Apples. Bulletin 253. Report of Analysis of Fertilizers.

Virginia Experiment Station, Blacksburg, Va. Special Bulletin, Virginia State Crop Pest Commission, No. 45. Circular in Relation to Some Injurious Insects and Plant Diseases.

South Carolina Experiment Station, Clemson College, S. C. Bulletin 90. Texas Fever, Part II, Inoculation.

Bulletin 91. Coast Experiments. Report of Progress.

The Best Cooking Range Made, Sold for Cash or on Monthly Payments. **\$10 to \$20 Saved.**

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Your money refunded after six mos' trial if

is not 50 per cent better than others. My superior location on Lake Erie, where iron, steel, coal, freights and skilled labor are cheaper and best, enables me to furnish a TOP NOTCH Steel Range at a clean saving of \$10 to \$20. Send for free catalogue of five distinct lines, over 50 styles and sizes, with or without reservoir for city, town or country use. **CHESTER D. CLAPP, 247 Lynn St., Toledo, O.** (PRACTICAL STOVE AND RANGE MAN)

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CLEAN, SAFE, DURABLE AND COMFORTABLE.

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P. O. BOX 449

Bulletin 92. Analyses of Commercial Fertilizers.
Virginia Climate and Crop Service, Weather Bureau, Richmond, Va. Report for September, 1904.
Imperial Agricultural Department for the West Indies, Barbadoes, W. I. West Indian Bulletin, Vol. V, No. 2.

PAMPHLETS.
The Pecan Tree. How to Plant, Grow and Buy It. The G. M. Bacon Pecan Co., DeWitt, Ga.
Why the Fish Failed. A Story of Potash, by H. W. Collingwood. Published by German Kali Works, Nassau street, New York.
The Climate of Tidewater Virginia, by W. A. Plecker, M. D., Hampton, Va.
Telephone Line Construction and Equipment. This will be found a very useful and convenient handbook for those installing a telephone system in the country. It is published by the Williams Telephone and Supply Co., Cleveland, Ohio, whose advertisement is appearing in our columns.

CATALOGUES.
Pumps and Hay Tools. F. E. Myers & Bro., Ashland, Ohio. This is one of the most beautiful and comprehensive catalogues issued. It contains 374 pages, and is replete with information and full illustrations of every kind of pump and hay tool made by this celebrated firm. Before installing a pump or buying haying tools of any kind send for their catalogue.
J. G. Harrison & Sons, Berlin, Md., Nurserymen.
John Lightfoot, Sherman Heights, Tenn. Strawberry and Raspberry plants and June bud peach trees.

A NEW HARNESS INVENTION.
We invite the attention of our readers to the ad. of The Fontaine Co., Christie, Va., which recently patented and is now offering for sale a splendid contrivance in the shape of Safety Tugs. This tug is buckled to the saddle straps and it tightens or slackens automatically, depending on the pressure upon them.
Some of the many advantages of these tugs are that they prevent the harness saddle hurting the horse's back; should the breeching break, the safety tugs will prevent the buggy from running against the horse; they always keep the shafts in correct position, preventing them from flying up or wobbling sideways.
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"The parson preached such a edify'n' sermon on the subject o' filthy lucre that the trustees raised his salary three hundred dollars. The parson took it. He said he reckined he'd put in a new bath-tub an' take the chances."

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AGRICULTURAL LIME
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Send for Circulars and Price-List,
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It may be with saws, but not so when the
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Northern Virginia Farms.

Of every class, adapted to Grain, Fruit Dairy and Blue Grass, within five to thirty miles of Washington, D. C.

No. 5.—163 acres; half timber, balance cleared; 1½ miles from station Good 7 room house; large barn; good water. Price, \$2,000.

No. 16.—130 acres; 20 in timber, balance cleared. Good land. In good condition. Comfortable 4 room house Fine water. Five miles from station Fronts on Pike. Price, \$20 per acre.

No. 22.—225 acres. Two and one-half miles from station. Forty acres timber, balance cleared. Fine land. In good condition. Good 7 room house. Large barn, etc. Price, \$20 per acre.

No. 23.—50 acres truck and fruit farm. Price, \$2,650.

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No. 36.—275 acre farm in Fairfax Fine quality of grain and grass land Good buildings. Refined and educated citizens. Price, \$7,000.

See April and May issue of SOUTHERN PLANTER for description of the above farms, and write for my farm list and full information.

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Where Health, Climate, Soil, Location and markets are unsurpassed. Any size, place and price to suit the buyer of a stock truck, fruit, poultry or fish and oyster farm. The James River Valley Colonization Co. offers superior advantages to land buyers. Write for free 32 P. pamphlet giving full particulars.

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FINE FARMS In the great fruit grain and stock section of VIRGINIA Best climate and water in the U. S. Near great markets, with best educational advantages. For further information address ALLEMARLE IMMIGRATION CO., SAM'L B. Woods, Pres. Charlottesville, Va.

MAGAZINES.

Prof. Henry Fairfield Osborn's paper on "The Evolution of the Horse in America," which is the opening article in the November Century, would give distinction to any magazine. It is the second in his group on "Fossil Wonders of the West," the first, on the "Bone Cabin Quarry of Wyoming," having appeared in September. This is the first complete account of the explorations of the American Museum of Natural History under the William C. Whitney Fund, and presents very striking results in the direction of solving many problems in the study of the fossil horse. The paper is fully illustrated, November being the month of the Horse Show in New York. The Century presents also three drawings of "The American Horsewoman," by Urquhart Wilcox: "The Morning Ride," "The Winner," and "In Perfect Form." The horse also figures in the frontispiece, St. Gaudens' Sherman group at the entrance to Central Park, reproduced from a color drawing by F. V. Dumond, which conveys not only the color but the vigor and spirit of the original. Two other examples of color work are a "Tiger and Cobra," drawn by Charles R. Knight, and a double page drawing by Maxfield Parish in illustration of Keats' ode "To Autumn," which is accompanied by a facsimile of the original manuscript, owned in Boston, and now first reproduced.

There are also timely as well as seasonal features, reflecting the current interest in Japan and Russia. Hon. Andrew D. White continues his entertaining papers, with recollections and impressions of Russia during his service as minister in 1892. The article has in parts the character of a philippic, and is written with intense conviction. Mr. White gives his impressions of the present Czar and Czarevitch, and others of the imperial family—De Plehve, Makaroff, De Witte—and records his frank criticism of the Russian foreign policy and its conduct toward Finland.

"Japanese Devotion and Courage" is the title of a paper by Oscar King Davis, who describes graphically the three heroic attempts to block the harbor of Port Arthur, and several courageous actions on the part of the military. A short article on "The Peeresses of Japan in Tableaux" introduces a dozen views of a recent exhibition for charity in which, for the time, the peeresses appeared in public—an extraordinary innovation, which is said to be no less remarkable than the feudal nobles' voluntary relinquishment of their fiefs in 1868. The subjects of these tableaux were heroic scenes from the history of Japan. A curious paper by Gustave Michaud, entitled "The Brain of the Nation," undertakes to answer the question, "Where are the most intellectual people of our country?" In this respect the large cities are compared, with a result which is

..To Homeseekers.. "THE BUSINESS OF FARMING IN VIRGINIA."

Is the title of a new pamphlet issued by the Norfolk and Western Railway Company. We will gladly mail you a copy.

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Grain, Fruit, Dairy and Blue Grass Farms of every Class within one hour of Washington, D. C.

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Being physically unable to properly manage my farm of 910 acres, I offer it for sale. 600 acres in cultivation, 200 acres splendid timber land—no waste lands. Good dwelling, store house, barns, water-works, telephone, daily mails, 13 good cabins, with tenants. All lands in cultivation, circled and terraced. Price, \$17.50 per acre. Any one looking for such property can address or call on W. B. MERCIER, Centreville, Miss.

Old Virginia Farms

25, 50, 100, 500, 1,000 and 2,000 acre tracts. Some of these highly improved and convenient to schools, churches, steam and trolley lines. Send for our new catalogue. HOCKADAY, CASSELMAN & CO., Box 257, Richmond, Va.

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Near Keysville, Va., for sale at \$4.00 per acre. This farm is well wooded and watered; about half of it is in original growth timber valued at several thousand dollars. Am anxious to sell. Correspondence invited. T. E. ROBERTS, Chase City, Va.

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1,000 acres on Indian river, Fla. Building lots, orange and grape fruit groves, pine-apple plantations, wild land, \$5 to \$10 per acre. Also a bearing fruit farm near Lynchburg, Va. \$15 per acre. Owing to poor health, will sell any quantity desired cheap or easy terms. Rare opportunity for profitable investments. JAS. HOLMES, College Park, Va.

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Have you a map of your farm, or is your old map torn and falling to pieces? I make a specialty of farm map making, and should be glad to make you a nice map. If you haven't a map, copy the metes and bounds from your deed (be careful in copying), and mail to me; or if you want your old map copied, mail it to me. My maps are made on best quality mapping cloth (doesn't tear or fade), and look well framed and hung on the wall. Are you satisfied that your farm contains as many acres as you paid for? or are you buying or selling land and wish to know the area without going to the trouble and expense of a new survey? If so, let me calculate the area for you from the old notes on your deed. Many of our old surveys were very careless with their calculations, and I may save you many times my small charge for calculating.

My charges are: For maps, \$2.00 each; for calculating area, 10 sides or under, \$1.00; 10c. extra for each side over 10.

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If located in one of these Virginia counties: Prince George, Chesterfield, King William, Gloucester, New Kent, King and Queen, Hanover. Send description, statistics, price.

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\$3 PER ACRE AND UPWARDS

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Nice little poultry farm, 100 acres, good house and orchard, \$500.00. Blue Grass, Stock and Fruit Farms. Address PORTER & GATES, Louisville, Va.

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In Virginia and adjacent territory for old established line of live stock remedies. Only those with experience in this or similar line, and capable of earning \$100 net or more, per month need apply. Give references and full particulars in first letter. Address JOS. HAAS, V. S., 106 So. Penn. St., Indianapolis, Ind.

likely to cause surprise to most readers.

Of the fiction—the readers of "The Sea Wolf" will turn first of all to the concluding chapters of that strenuous tale. The stories include "Within the Enemy's Lines," by Edward Boltwood; "Down the Plume with the Sneath Piano," by Bailey Millard; "The Man Who Forgot," by Alice Sedgwick (sister of Anne Douglas Sedgwick)—a story of cheating at cards; "An Impossible Possibility," by Elliott Flower, a story of municipal politics. These are illustrated, respectively, by Ashe, Russell, Marchand and Gruger. A fifth story, unillustrated, is "Miss Harriet's Extravagance," by Florida Pier.

Readers throughout the United States and Canada are on the quiver of expectancy at the announcement of a new novelette by Charles G. D. Roberts. This is published entire in the November number of Lippincott's Magazine. A bit of inside history concerning this "find" is that it was first submitted in short story form to the editor of Lippincott's Magazine. He at once saw in it splendid possibilities as a novel and suggested its expansion to Mr. Roberts. Hence, "The Prisoner or Mademoiselle de Biencourt" makes its bow to the public in a size befitting its greatness. This is a rattling good story of adventure. It is placed in the beautiful "Evangeline" country; and in picturesque, in power of portrayal, and in literary finish it is not surpassed in contemporary fiction.

An entertaining tale of "get rich quick" variety is called "The Metamorphosis of Phil Barrett." Its author is Albert Payson Terhune, the talented son of his talented mother, "Marion Harland." Among the plethora of automobile stories afloat the one called "Matched Pairs," by Helen Sherman Griffith, shines out on a plane by itself for its cleverly interwoven love-interest. Prince Vladimir Vaniatsky, the Russian diplomat, contributes a short story, entitled "The Tragic Child," which contains a happy note, notwithstanding its title. A humorous story of a preacher's ruse and its outcome is called "Uncle Luke's Downfall." The author is C. T. Revere. "The Tale of a Cad," by Alison M. Lederer, presents its artist hero in the unenviable role of playing fast and loose with a woman's heart.

An especially important paper, on "Mr. Gladstone's Friendship with Lord Acton," is written by the Hon. Maud Lyttelton. All the interesting new matter which it contains has been endorsed by "The Grand Old Man's" daughter, Mrs. Mary Gladstone Derw.

The November St. Nicholas, No. 1 of Volume XXXII, is notable by virtue of the first chapters of L. Frank Baum's new serial, "Queen Zixi of Ix." Mr. Baum will be remembered as the author of "The Wizard of Oz" and other delightful absurdities; and this

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a good farm in Virginia, near river preferred, either on shares or on salary. Willing to put some money in if satisfactory. Have run a James river farm for nine years successfully. I have a large force of help in my own family, and had a life experience. Best of references in Virginia and here. Address THOS. SHOOSMITH, 3030 Kensington avenue, Philadelphia, Pa.

Situation Wanted

by a practical and experienced man, as Manager of a Large Dairy Farm near a town where milk and butter could be sold from a wagon. Address B. H. VAN MATER, Bel Alton, Charles County, Md.

WANTED

an experienced man on my farm, near Richmond. \$15 per month and board. Also a boy. \$4 per month and board. Address "EXPERIENCE," care Southern Planter.

WANTED

An experienced farmer and business man with \$2,000 to engage with me in the sheep business in the mountains of West Virginia. Also good man to rent a farm in West Virginia. O. D. HILL, Kendallia, W. Va.

F. E. MYERS & BRO. Honored.

The Capture Highest Award at the Louisiana Purchase Exposition

The World's Fair Judges have awarded F. E. Myers & Bro., Ashland, Ohio highest grand prize and gold medal for their famous line of Pumps, Hay Tools, etc.

This is only another proof of the fact that every one who knows the best "Takes off his hat to the Myers."

Mention THE SOUTHERN PLANTER in writing.

X Blue Ribbon

Grain Pasture Mixture

FOR FALL SOWING.

A combination of Wheat, Barley, Rye and Winter Turt Oats.

Yields the largest amount of Winter and Spring grazing, fine for soil improving or can be cut for hay.

Sow in a broadcast sowing.

Price per bushel, \$1.00. 5 bushel and over 90c per bushel. 50 bushel, 85c per bushel. **SACKS INCLUDED.**

We carry the most complete assortment of all grains, viz: Seed Wheat, Barley, Rye, Winter Turt Oats, Grass, Clover and Fescue Grass.

Write for our Large Free Catalog No. 423.

WOOD, STUBBS & CO., Seedsmen,
LOUISVILLE, KY.

Trees - Trees

I offer a fine lot of whole root trees.

APPLES, PEARS, PEACHES,
CHERRIES, PLUMS, GRAPE
VINES, RASPBERRIES, Etc.

Save agent's commission by sending your order to the nursery.

CATALOGUE FREE. All Stock Inspected and Fumigated.

WERTZ'S NURSERY, SALEM, VA.

Reliable Seeds

FOR FALL SOWING.

Seed Oats, Rye, Barley, Rape, Vetches, Alfalfa, Clover and Grass Seeds. Union Sets and Garden seeds of the highest quality and germination at the lowest market prices. Writings for quotations. Mail orders given prompt attention.

DIGGS & BEADLES,
SEEDSMEN,
1709 E. Franklin St., RICHMOND, VA.

Samples mailed when desired.
Catalogue mailed free.

THE NUT NURSERY CO.

MONTICELLO FLA.

Growers of FANCY and RARE NUT TREES, by grafting in all of the more important species of nuts. We have probably the FINEST STOCK OF GRAFTED PECANS in the South. Catalogue for the asking. J. F. JONES, Manager.

GINSENG & RAW FURS

Wanted: Full value for your goods. Write for price lists. Address H. C. METCALF, Alstead, N. H.

new story starts off so fascinatingly that every young reader will welcome the announcement that "Queen Zixi of Ix" is to run all through the year. The story is also notable for its illustrations, many of them in color. Indeed, it is promised that the serial will bring at least sixteen full pages printed in color, with sixty or more colored illustrations in the text.

The November St. Nicholas brings, too, the first of what promises to be a series of rarely instructive and valuable papers for young readers by the well-known art critic, Charles H. Caffin. The papers will be grouped under the heading, "How to Study Pictures." This month Mr. Caffin takes up the two paintings of "The Madonna Enthroned," by Cimabue and Giotto, and the paintings of "The Virgin Enthroned," by Botticelli and Memling, tells of the artists, points out the likenesses and the differences of the pictures contrasted, and in careful detail advises how to get the most and the best out of pictures. The same plan will be followed in other papers to come, and reproductions of the world's masterpieces will be used to point the moral and adorn the tale. And there is another series of helpful and instructive articles beginning in this issue, entitled "The Practical Boy," by Joseph H. Adams. This first paper treats of simple carpentry and painting and the use of tools in a clear, practical manner, with many illustrations to help the amateur carpenter. Other papers are promised from month to month along the same lines from Mr. Adams, who was for years chief designer of artistic wood and metal work for a great manufacturing firm in New York.

FLOOR PAINT.

A Methodist minister's wife is authority for this recipe, published some years ago in a newspaper: For a floor twelve by sixteen feet, take four pounds of French ochre and mix with one gallon of boiling water, to which one ounce of melted glue has been added. Paint the floor with this mixture while it is hot, using a whitewash brush for the purpose. It dries quickly. If applied at noon, it will be dry by night. When dry apply a coat of boiled linseed oil, using the whitewash brush. This should be dry by morning. About three quarts of oil will be needed. The floor improves in looks as it is cleaned from week to week. Fill cracks and nailholes with a mixture of sawdust and glue several days before painting.

Daniel Webster liked to make remarks of a character intended to puzzle simple minds. Stopping to dinner one day at a country inn on his way to Marshfield, he was asked by the hostess if he usually had a good appetite. "Madam," answered Webster, "I sometimes eat more than I do at other times, but never less."

COW PEAS

WANTED.

State variety and price, and mail samples.

Robert Buist Company,
SEEDSMEN,
Philadelphia, - - Penn.



Write for it and you get price list of EARLY and SELECT varieties of

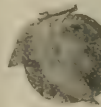
SEED (Irish) POTATOES.
PERCY L. BANKS,
P. O. Box 182, Norfolk, Va.

Strawberry Plants, Trees, etc.

\$1.60 buys 1,000 nice young STRAWBERRY PLANTS, and if you are not satisfied with them, you can get your money back. Send for free catalogue. JOHN LIGHTFOOT, R. F. D. 2, Sherman Heights, Tenn.

Largest Peach Tree Growers

IN THE SOUTH.



Write for our new illustrated and descriptive catalogue of general Nursery Stock.

CHATTANOOGA NURSERIES,
Chattanooga, Tenn.

Alfalfa Seed 1 CTS. LB. \$10 BUSH L
INOCULATED ALFALFA SOIL, 75c. 100 lbs.; \$10 a ton. RECORDED HEREFORDS, almost beef prices. J. N. SHIRLEY, Lebanon, Ind.

SAVE THAT PORKER.

To any person sending us 25 cents in stamps or silver we will send by mail a bottle of GREGORY'S ANTI-SEPTIC HEALING OIL, guaranteed to cure every case of Cholera in hog or chicken if administered in first stage of the disease. Cures colic in man or horse in one to three minutes. If it fails drop a postal card and we will return stamps or money. Full directions given. GREGORY MEDICINE CO., Conway, Ark. Send now, as this ad. will not appear but three times.

OPIUM and Whiskey Habits Cured at a Home without Pain. Particulars sent FREE. H. M. Woolley, G. D. Atlanta, Ga., 100 N. Fraser St.

KENDALL'S SPAVIN CURE

Horse Owners Know

from long experience in treating such characteristic ailments of the horse as **Spavins, Ringbones, Splints, Curls** and all the forms of **Lameness** that the one reliable remedy is

KENDALL'S SPAVIN CURE

Bleeker, N. Y., Jan. 24, 1904.

Dr. B. J. Kendall Co.

Gentlemen: Enclosed please find a 2c stamp for which kindly send me your "Treatise on the Horse and his Diseases." I think that your **Kendall's Spavin Cure**, also, "Treatise on the Horse and his Diseases," I would not be without it. I cured a Spavin of three months standing on a colt with one bottle of your Spavin Cure.

Price \$1.50 for \$5. An alignment for family use has no equal. Ask your druggist for **Kendall's Spavin Cure**, also, "Treatise on the Horse and his Diseases," the book free, or address

Dr. B. J. KENDALL CO., ENOSBURG FALLS, VT.



Spavin

Bone Spavin, Bog Spavin, Ringbone or any kind of blenheim—we have what you need to make a certain cure. Guaranteed always—money right back if it ever fails.

Fleming's Spavin Cure (Liquid) for the soft bunches—Paste for the hard ones. A 45-minute application and the lameness goes. Lots of blenheim information in the free book we send.

Fistula and Poll Evil

Do yourself what horse doctors charge big prices for trying to do. **Cure Fistula or Poll Evil** in fifteen to thirty days.

Fleming's Fistula & Poll Evil Cure is a wonder—guaranteed to cure any case—money back if it fails. No cutting—no scar. Leaves the horse sound and smooth. Write for our free book on diseases and blenisms of horses.

FLEMING BROS., Chemists,
250 Union Stock Yards, Chicago, Ill.



NEWTON'S Heave, Cough, Dis-temper and Indigestion Cure. A veterinary specific for wind, heave, and stomach troubles. Strongly recommended. \$1.00 per bottle. Dealers: Muller & Co., Toledo, Ohio.

NO MORE BLIND HORSES.

For Specific Opt. almia, Moon Blindness, and other Sore Eyes, **Barry Co., Iowa City, Ia.** has a sure cure.

THE KEELEY INSTITUTE GREENSBORO, N.C.

For the treatment of THE LIQUOR, OPIUM, MORPHINE and other Drug Addictions. The Tobacco Habit, Nerve Exhaustion

Mr. Editor,—We are pleased to note many improvements in manufacturing in this section, among which we find the Planters Hoe Shop, formerly owned by D. & H. Scovil; now owned and run by the Porters, who have added to this already large shop another shop 200 feet more in length, and another 100 horse power engine. I have also noticed the addition of another 100 horse power boiler and engine added to the already large water power of the famous Cutaway Harrow Co.'s works; also notice with pleasure the addition of an electric light plant to spread the light and power into the dark corners of this shop.

The Clarks' Genuine Cutaways are truly a great invention. The Clarks' Cutaway trade-mark is worth a fortune to the Cutaway Harrow Co. It always insures a machine of excellent quality. The trade in this section is good; also in the South, West and far West; foreign trade was never better.

Yours truly, GEO. M. CLARK.

YORKSHIRE HOGS AT BOWMONT FARMS.

We invite the attention of our readers to the ad. of Bowmont Farms. Col. Bowman, the proprietor, writes us that he has recently added to his already fine herd of large Yorkshires the great sows, Oak Lodge Julia, 35th, Oak Lodge Pride, 30th, first and third prize sows, respectively, in the Junior class at the recent swine exhibit at the World's Fair. Both of these sows were bought from Mr. Brethour, of Ontario, who is a well known breeder.

These farms have always been noted for breeding the best in everything, and it is very evident that Col. Bowman is determined that this reputation shall not suffer. Look up the ad. and get prices on some of the splendid stock now for sale.

THE LEHMAN HEATERS.

One of the most useful devices ever advertised in our columns is the Lehman Heater. It certainly transforms a long, cold drive in a sleigh or buggy into one of comfort and pleasure. The Heater is very neat and attractive in appearance, costs only two cents per day to operate, using Lehman Coal, which has no smoke or smell. There is positively no danger of setting fire to anything. Inquire of your hardware man for one, and if he cannot supply you, write to the makers, whose ad. will be found on another page.

Would you rub up a lather on your face for shaving with a coarse scrubbing brush? It's nearly as bad—using toilet or laundry soap for the lather. After shaving, your face ought to feel cool and smooth and comfortable. If it doesn't—try real shaving soap—made by The J. B. Williams Company, whose advertisement appears elsewhere in this paper. Shaving may become a pleasure—as you will learn if you take advantage of their offer.

Warranted to give satisfaction



GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of **Caustic Balsam** sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Make Your Idle Money Earn You Interest.

Write the **FIRST NATIONAL BANK** of **RICHMOND, VIRGINIA** for information concerning its certificate of deposit, so arranged that one per cent. may be collected every **FOUR MONTHS** through your nearest bank or store.

Our experience proves this form for savings to be the most satisfactory plan yet devised for deposits of \$100.00 or more.

Our Capital and Surplus is

ONE MILLION DOLLARS.

JOHN B. PURCELL, President.

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CHAS. R. BURNETT, Assistant Cashier.

J. C. JOPLIN, Assistant Cashier.

"Crop Growing and Crop Feeding."

BY **PROF. W. F. MASSEY.**
383 Pp. Cloth, \$1.00; Paper, 50c.

We offer this splendid work in connection with the **SOUTHERN PLANTER** at the following prices:

Southern Planter and Cloth Bound Volume, \$1.25
Southern Planter and Paper Bound Volume, 90c
Old or new subscriptions.

COCKERELS

of the following breeds for sale at \$1 each: BARRED and WHITE PLYMOUTH ROCKS, BLACK MINORCAS, BLACK LANGSHANS, S. C. WHITE and BROWN and R. C. BROWN LEGHORNS and LIGHT BRAHMAS; also TOULOUSE GEESSE and PEKIN DUCKS. J. B. JOHNSON, Clover Hill Farm, Manassas, Va.

FINE FOWLS

BARRED, BUFF and WHITE PLYMOUTH ROCKS, SILVER, WHITE, BUFF and PARTRIDGE WYANDOTTES, BLACK MINORCAS, BLACK LANGSHANS; LIGHT BRAHMAS; BUFF and PARTRIDGE COCHINS; WHITE and BROWN LEGHORNS.

We are headquarters for stock and eggs of the above breeds, and will give satisfaction every time. OAKLAND POULTRY FARM, C. J. WARNER, Manager, Ruffin, N. C.



SILVER-LACED WYANDOTTES.

Strong, healthy, farm-raised birds, Orpington strain plumage. Cockerels \$1.25; females \$1.00. Order early so as to get first choice. Satisfaction to every customer or money refunded. POLAND CHINA FOWLS, each. Dr. H. H. LEE, R. F. D. No. 2, Lexington, Va.

White Leghorn

Cockerels for sale. Exhibition or breeding stock. Address

C. G. M. FINK,

R. F. D. 2,

Richmond, Va.

SINGLE COMB

White Leghorn

Cocks and Pullets. Some fine ones, and plenty of nice B. P. ROCK PULLETS for sale at right prices. Write us your wants. PRICE & PRICE, Propr., Green Bay Poultry Yards, Green Bay, Va.



BROWN LEGHORNS,

White Plymouth Rocks.

Some fine cockerels and pullets for sale cheap.

R. W. HAW, Jr., Centralia, Va.

SPECIAL SALE

BARRED PLYMOUTH COCKERELS for sale at a very low special rate if taken before November 1, 1904. Thoroughbred stock, and are very fine birds. Elegantly marked. Address PIEDMONT POULTRY PLACE, Whites Depot, Va., Miss E. CALLIE GILES, Propr.

FOWLS FOR SALE.

WHITE HOLLAND TURKEYS (Mammoth Strain), \$7 per trio. EMMENT GEESSE, \$4 per pair. ROSE COMB WHITE LEGHORNS, \$4 per trio. MRS. LIZZIE DYER, Versailles, Tenn.

HOME-MADE RUGS.

There are many sensible women in the country who never gave up the practice of making rag rugs during all the years these useful things were in disfavor, and now that fashion has set its seal of approval on them, they are besieged with inquiries as to how to make them. The old custom of speaking of "hideous rag carpets" has given place to such exclamations as, "How striking," "Too beautiful for anything." The woman in the country is apt to smile a little over the raptures of her visitors, and wonder how long the new fad will last, but she knows that as long as she keeps house, rugs will form an important part of the furnishing thereof.

To the novice a few general directions may not come amiss. For kitchen use and on porches the hit-and-miss style is the best, as the odds and ends from making fancy rugs may be used as well as the ugly rags old trousers and coats make. Keep all colors separate, and much trouble and work will be avoided. Some people argue that it is just as easy to have one large basket and pick out the rags as you want them; but much handling frays and spoils them, and it is just as easy to have three or four grape baskets without handles to hold the different colors. For fine rugs cut the rags narrow, but where they will see hard service make the strips at least an inch wide. Of course the finer the rags the thinner the rug.

For a bedroom rug, I have just finished tearing up some faded shirts, that could really be called white now, and some old pink night shirts. I know this will be a dainty combination, for a woman near by made one, using pink chain, or rather a light shade of red, and the result was very pleasing. One pink and one white was the rule, and I aimed to tear the strips the same length as nearly as possible. This rug will not get hard wear in front of a spare bed, and will keep clean several years before it needs washing. After that it can be dipped in dye and used again, or, if dingy-looking, be used on rainy days on the piazza.

For a drugget for a dining-room, take all one color of rags and have two strips woven each one yard wide and two and one-half yards long. Some looms turn out carpet a yard and a quarter wide, and in that case it is better to make the strips a little longer. Strip six inches from each end with a six-inch band of contrasting color, and when the strips are sewed together, you will have a beautiful drugget at a moderate cost. Mine is made from old trousers, and has a red border and red fringe. The fringe is made from woolen yarn. In the way we used to fringe our tidies, and we think it is very pretty.

An all white rug is beautiful but, to my mind, too perishable for a home where the mistress does her own work.

TEN TRIOS

Buff Leghorns,

the best layers, beautifully marked, from strains which layed 210 eggs a year. \$5 a trio.

SUPERB BRONZE TURKEYS from the best pens of the country. Trio, \$10; hens, \$3 each. Toms, \$4 to \$5 each. Satisfaction guaranteed. A. R. VENABLE, JR., Farmville, Va.

PIT GAMES.

Imported HENNY and ASEELS of the best fighting strains in England. A few 1904 birds for sale. Price \$5 the trio. State wants. OWEN SWAFFIELD, Ivy Depot, Va.

PIT GAMES

Black Devils and Red Cubans.

Where they won, Sharon, N. Y., 4 out of 5. Blue Rock, Pa., 2 out of 3. Clarion, Pa., 6 straight. Roanoke, Va., 8 out of 9. Akron, Ia., 2 straight. Eggs, \$2 per sitting. Young trios, quail size, \$3.

THOS. W. JARMAN, Yancey Mills, Va.

WHITE HOLLAND TURKEYS, W. PLYMOUTH ROCK FOWLS, TOULOUSE GEESSE, PEKIN DUCKS and PEA FOWLS.

Eggs in season. Will exchange for White Plymouth Rocks.

OAK HILL FARM, Wenona, Va. (Oak Hill Station, D. & W. Ry.)

BARGAIN SALE



of Cockerels; Langshans, Orpingtons, Rocks, Wyandottes, Minorcas, Leghorns and others. Write wants. Low prices for early buyers. Large illustrated poultry book describes 40 varieties best poultry, only 6c. List free. JOHN E. HEATWOLE, Harrisonburg, Va.

Pure-Bred Buff Orpington

Cockerels for sale: \$1 up, depending on quality. Also R. C. White Leghorn Cockerels, "Victor Spain," and W. A. Turkeys of excellent breeding. Write me what you want. T. H. KING, Queensland Farm, R. F. D. 2, Hagin, Lee county, Va.

PIEDMONT HEIGHTS FARM

YANCEY MILLS, VA.

SINGLE COMB BROWN LEGHORN Cockerels, Pullets and yearlings for sale. Young stock is practically full-grown.

F. C. LOUHOFF, Prop.

SATISFY YOURSELF

SPLENDID BARRED PLYMOUTH ROCK COCKERELS (Bradley Strain). Can be returned if don't please. L. W. WALSH, Box 104, Lynchburg, Va.

CHICKENS

for sale. B. P. ROCK, S. C. B. LEGHORN and WHITE WYANDOTTE. Fine pure bred stock. Prices reasonable. Write MISS CLARA L. SMITH, Croxton, Caroline county, Va.

PURE BRED

Mammoth Bronze Turkey

Gobblers for sale. MISS M. E. BADER, McGeheysville, Va.

EDW. S. SCHMID,

Emporium of Pets

SINGING BIRDS, FINE BRED FOWLS,
CAGES, PIGEONS, DOGS, PET ANI-
MALS, GOLD FISH, AQUA-
RIUMS, DOG AND BIRD
FOODS, MEDICINES,
ETC.

FLORISTS' SUPPLIES of all kinds.

712 12th Street, N. W.,
WASHINGTON, - - - D. C.

WANTED!

ALL KINDS OF
LIVE WILD BIRDS AND ANIMALS

Particularly Deer, Wild Turkeys, White
Squirrels, Ducks, Swans, Bob White
Quail, Grey Squirrels, Bear, Baby Rac-
coons, Foxes, Etc.

DR. CECIL FRENCH,
718 Twelfth St. N. W., Washington, D. C.

PURE BRED

Buff Plymouth Rock

COCKERELS, April hatch, for sale. Finely
colored; from famous Nugget strain; healthy
and well grown. For prices, etc., address
MISS MARY FOSTER, Salem, Va.

Very fine pure bred

Plymouth Rock Cockerels,
for sale at \$1.50 each; also some splendid
M. B. Turkeys for sale. F. MAXWELL
CONNER, Box 316, Richmond, Va.

Homer Pigeons,

Bred of choicest selected stock, from Ply-
mouth Rock Squab Co., \$1 per pair.

C. DE BRUYN KOPS, Wake, Va.

COLLIE PUPS

By Imported Sires. Sable and white and tri
colors. Prices, \$8 to \$15. Older ones correspond-
ingly low. Book on Training, 50 cents: FREE if
you buy a Collie.

MAPLEMONT STOCK FARM, Rutland, Vermont.

Scotch Collies

Champion blood of England and America.
Puppies now ready to ship. Also bitches in
whelp for sale. MEYER & JEHNE, Farm-
ville, Va.

Scotch Collie Pups

3 months old, bred from prize winning im-
ported stock, with written pedigree for 94
generations. Price, \$10 each. Trained grown
dogs at reasonable prices. C. H. BENNETT,
Hollins, Va.

Pointers

Several broken dogs and puppies of the best
English and American strains for sale at
reasonable prices. Also BULL, FOX and AIRE-
DALE TERRIERS.

OWEN SWAFFIELD,
Ivy Depot, Va.

The faded blues and pinks from chil-
dren's dresses and old shirt waists
combine beautifully and may be used
with white or colored chain. Insist
on having plenty of chain used in the
weaving and your rug will be unsatis-
factory and soon worn out. Red rugs
show the dirt badly, but are useful to
brighten up a dull carpet in a living
room, while green ones are especially
pleasing to the eye in summer time.
Choose a reliable dye and follow the
directions to the letter, if you expect
success in coloring. Have your rags
clean and wound in small hanks, dry
thoroughly, and there is not much
danger that they will fade.

If once you take up the carpets at
spring cleaning time and leave them
up till fall with only gay rugs on the
painted floors, you will never want to
go back to the old way of having a
dusty carpet down the year round.
Two or three new rugs a year will be
ample even for a large family, for
they wear like iron when well made.—
Hilda Richmond, in Country Gentle-
man.

The October "American Boy," with
its football cover and ninety illustra-
tions, ought to make a boy's heart
jump with pleasure. This number is
especially attractive. There is a mes-
sage from Governor Warfield, of Mary-
land, to the boys of America, a page
devoted to the Order of the American
Boy, books reviewed, directions for
saving drowning persons, a page on
stamps, coins and curios, one on am-
ateur photography, and one on puzzles.
Published by The Sprague Publishing
Company, Detroit, Mich. Subscription
price, \$1 per annum.

**INSECT PESTS IN NORTH CARO-
LINA.**

To the Editor:

Dear Sir,—Your attention is called
to the press edition of the Entomologi-
cal Circulars. Each of these circulars
deals with matters pertaining to in-
sects which are of importance to farm-
ers, truckers, orchardists, or to the
public generally. It seems to me that
it would be well, therefore, if you could
print this notice in your paper, with the
statement that copies of the regular
edition of each of the circulars
may be had on application to me.

I beg to assure you that this office
is doing all that it can to make its
work of real value to the people of the
State, and to this end request your
co-operation in extending notices of
the circulars as they are issued.

FRANKLIN SHERMAN,
Entomologist.

Department of Agriculture, Raleigh,
N. C.

THE BRUTE.

Wife—Mr. Dauber, the artist, has
asked me to let him paint my face.

Husband—He didn't think one coat
was enough, I suppose.—Topeka State
Journal.

**PRAIRIE STATE
INCUBATORS
AND BROODERS**

Winners of 235 1st Prizes. A
phenomenal record of successes in the
hands of poultry-raisers. The
machines that insure success.
Would you like to know about them?
Write for beautifully illustrated
free catalogue.

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**VICTOR BOOK**

telly, why our machine is preferred
by us, and a little more with
incubation. There's pointers that
may mean dollars to you. We
pay freight, and guarantee goods
as described, or money back. The book
is free. Write for it today. Postal will do.

**EASY MONEY**

is made by installing a Hawley
Incubator. Little cost, little care,
results sure, profits large. 30 Days'
Free Trial. Catalog free. Send this
paper.—Hawley Incubator
Co., Box 49, Newton, Iowa.

Percheron Stallions

For sale: 2 years old and older; bred from the
best families in America; pedigrees tracing to
imported sire and dam; nothing but imported
stallion used at the head of stud; prices right.

D. T. MARTIN, Salem, Va.

Sweetwood Jr.,

at a bargain. Dark sorrel, 6 years old,
weighs 900 pounds; went half mile this season
in 1:08 with 3 weeks' handling. Write
for pedigree. Price, \$300 cash, if taken at
once. H. F. SINCLAIR, Morrison, Va.

THOROUGHBREDS for Sale.

BAY COLT "BURT" May 10, 1901. By Au-
rus, Cara Bell, by imp. Charaxus.

FLORENCE GLENN, No. 15709, chestnut
mare, by Linsey Woolsey; Thelma, by imp.
Esner, foaled May 27, 1898.

BROWN FILLY, Hannah C. No. 32735,
foaled March, 1902, by Aureus; Kathleen Gray,
by Jim Gray. For further information, ap-
ply to S. H. WILSON, R. F. D. 2, Brydville, Va.

FOR SALE OR EXCHANGE

ALBENSON, 6249, Standard bred
stallion 10½ hands high; weight, 1200
lbs. Rich bay with black points
throughout.

GEO. D. WINGFIELD, Bedford City, Va.

FOR SALE OR EXCHANGE**Thoroughbred Stallion**

"Hano," No. 18206 (foaled May 20, 1898),
by Hanover, out of Lizzie Lee, she by Ten
Broeck; he is a rich chestnut 15½ hands, a
sure foot getter, and a grand hunting horse.
Write at once about him. G. I. HUTCHIN-
SON, Summerville, S. C.

Mention THE SOUTHERN PLANTER in
writing.

30 ANGORA GOATS

For sale at
reasonable Prices.
Kids in Pairs.



C. H. WINE, Brandy Station, Va.

ANGORA GOATS are handsome, hardy and profitable. For large circular address E. W. COLE & CO., Big Clifty, Ky.



JACKS, JENNETS, STALLIONS.

Fine Jacks a specialty.

Write for what you want.
W. E. KNIGHT & CO., R. F. D. 5,
Nashville, Tenn. Phone 30953L

KNIGHT & JETTON,
Breeder of and dealers in

JACKS, JENNETS, STALLIONS,
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Yearlings.

FINE JACKS a specialty.
Send Stamp for catalog.
Murfreesboro, Tenn.

**KENTUCKY JACK FARM**

A fine lot of KEN
TUCKY bred and bla
BLACK SPANISH
Jacks and Jennets
also 1 and 2 year old
Jacks; young stock for
sale at all times



Write or see me be
fore you buy. Come to Kentucky if you
want a good Jack. JOE E. WRIGHT, June
tion City, Ky.

Woodland Dorsets.

At 6 great State Fairs this year, we
won first, but two. At St. Louis,
we won second on Ewe Lamb and third
on Ram Lamb, against the strongest
Dorset Show ever seen in America.
J. E. WING & Bros., Mechanicsburg, O.

**DORSETS AND
HEREFORDS**

H. ARMSTRONG, Lantz Mills, Va.



O. I. C. PIGS
FROM REG. STOCK

FOR SALE. PRICES RIGHT.

F. S. MICHIE, Charlottesville, Va.

MAKING BOTH ENDS MEET.

The old saying, "His head will never
save his hands," has many illustra-
tions, and in this story it has a most
forcible application.

"Well, Caleb," said Captain W., of
Massachusetts, years ago, "what will
you ask a day to saw wood for me?
I've got several cords that I want sawed
in two for the fireplace."

"I should charge you about half a
dollar a day if I had a saw," replied
Caleb, "but I ain't got none, captain, so
I don't see how I can accommodate
you."

"If that's all that's lacking I guess
we can manage it," said the captain.
"I've got a prime new one, keen as a
brier, and I'll let it to you reasonable.
How would ninepence a cord do for the
use of it?"

"I reckon that's a fair price, cap-
tain. I'll be over in the morning."

Bright and early that next July
morning Caleb was at work, and he
kept at it so faithfully that he finished
before sunset, when he went to the
house to settle.

"Let's see," said the captain, "you
were to have half a dollar a day; we'll
call it a day, although it ain't sun-
down yet. That's 50 cents for you.
And you were to pay me ninepence a
cord for the use of the saw. There
were three cords and a half in the
pile; that makes 43½ cents due me.
Somehow, Caleb, you don't have very
much coming to you."

"How unfortnit," said Caleb, after
scratching his head dubiously for half
a minute, and then looking up quickly,
as if a new light had broken in upon
his mind. "How unfortnit that you
didn't have half a cord more, for then
we'd a come out jest square!"

A POPULAR BOOK.

On March 7, 1804, "a numerous and
respectable meeting of persons of va-
rious denominations" was held at the
London Tavern, and a society formed
"to promote the circulation of the
Holy Scriptures in the principal living
languages." At that time the Bible,
or portions of it, could be obtained in
about forty living languages, spoken
by two-tenths of the race. During the
century since the meeting at the Lon-
don Tavern adjourned, and very largely
from the machinery then and there
started, the Scriptures have been trans-
lated into 450 languages and dialects,
understood by seven-tenths of the race.
By the London society alone 180,000-
000 copies have been distributed, at an
expense of \$70,000,000. If we add to
this total the 70,000,000 copies already
distributed by the younger American
Bible Society, and the unknown mil-
lions printed and sold by private en-
terprise, we find ourselves inside a
safe estimate if we hold that certainly
300,000,000 copies of the Scriptures, in
whole or separate books or portions,
have gone into circulation during the
last century. Amazement attends the
study of the Bible, whatever the point

HOLLYBROOK FARM**BERKSHIRE PIGS****For Sale.**

THREE FINE YOUNG BOARS,
five months old, \$7.50 each.

TWO YOUNG SOWS, same
age and breeding, \$7.50 each.

These pigs are from registered stock
and are first-class in every respect. Our
pigs have free range, with a fine stream
of running water through the hog pas-
tures, and our stock is as vigorous and
healthy as possible.

Prices include crating and delivery
f. o. b. cars at Richmond, Va.

HENRY W. WOOD,

P. O. Box 330. Richmond, Va.

— ENGLISH —**BERKSHIRE PIGS,**

for sale. A fine lot of spring farrowed
Boars and Gilts. These pigs are sired
by Imported **Danesfield Tailor** (76940)
from the famous R. W. Hudson herd,
Danesfield England. His sire is the cele-
brated **Manor Faithful**, which sold at
the Biltmore sale of 1903 for \$615.00.

Their dams are Buttercup of Bilt-
more II (86611) and her get by Imported
Danesfield Minting (B. E. 8564), giving
strong Highclere blood. The best strains
of Berkshire blood in the World is in
these pigs. Perigrees with every pig.

Address, **D. CLARK,**

SNOWDEN FARM, FREDERICKSBURG, VA.

WE NOW HAVE A CHOICE
NUMBER OF PURE-BRED

Berkshire Pigs

MINIBORYA FARM,

Box 901, Richmond, Va.

BEECHENBROOK STOCK FARM

A Splendid Chance

**TO BUY ROYALLY BRED BERKSHIRES
AT A SACRIFICE.**

Pigs from 8 weeks to 8 months old. Also
that fine Boar King John, of Fassfern, No.
9123, 20 months old, by Sir John Bull, 3600,
Imported. Also 4 Registered Sows, 18 months
old, all bred to King John of Fassfern.
Will sell almost at butcher's prices to close.
Act promptly. **WILLIAMSON TALLEY,**
Richmond, Va.

BERKSHIRES

ANNEFIELD HERD

Contains the

Finest Blood Lines

in England and America.

Young Stock for Sale.

Inquiries cheerfully answered.

EDW. G. BUTLER, Annefield Farms,
Berryville, Virginia.

Berkshire Pigs

ready for October and November delivery by my 700 lb. boar, Capt. Jack 68623 and out of sows weighing from 500 to 600 lbs. in only fair breeding condition. To show that these pigs are extra good, I WILL SHIP TO RESPONSIBLE PARTIES ON APPROVAL.

Every hog in my herd is registered.

WOODSIDE STOCK FARM,
Charlottesville, Va.

OUR herd represents the
very best strains imported

—LARGE—

English Berkshires.

Choice stock at reasonable prices. Address

Cottage Grove Farm,

P. O. Box 5, Greensboro, N. C.

BERKSHIRES

All my pigs sold except twenty-one (21), farrowed September 20th, 24th and 25th, 1904, from registered sows, sired by MASON OF BILTMORE II (68548). Price, \$6 each, or \$10 a pair f. o. b. delivered first week in December. None but Biltmore blood in my herd.

ROBERT HIBBERT, Charlottesville, Va.

THREE BREED

Berkshire Sows

and 1 READY-FOR-SERVICE BOAR for sale at a bargain. COLLIE PUPS, sable and white, full white points; breeding unsurpassed. Write for prices. ALFRED P. WHITE, JR., Parkside, Va.

HAWKSLAY STOCK FARM
has some very choice

Berkshire Pigs

now ready for shipment. They are "tops" in breeding and individuality. Also M. B. TURKEYS and S. C. B. LEHIGH CHICKENS for sale.
J. T. OLIVER, Prop'r,
Allen's Level, Va.

of view or the course pursued. But nothing about the Bible is more amazing than its continuous, universal and utterly unparalleled popularity. In nearly every, if not every, country on earth where books are sold, more Bibles are sold than any other book. Last year the British and Foreign Bible Society alone distributed 5,943,775 copies, the majority by sale, in 370 languages, covering every part of the globe. And the issue by the American Society for the year amounted to 1,993,558 Bibles and portions.—Century.

CHRISTINE'S CONSCIENCE.

Christine was the young daughter of a professor in a Western University, and had acquired from the students a picturesque vocabulary. The kitten with which she was playing one morning displeased her, and she exclaimed: "Oh, you blanked, blanked little kitten!" Thereupon her mother led her to her bedroom, washed out her mouth with soap and water, then touched it with quinine. "It is very bitter, my daughter," said the troubled parent, "but the taste of those bad words you have spoken is far worse." On the following day the kitten again displeased Christine, and she muttered something inaudible. "Christine!" said her mother, warningly. "I didn't say it, mamma," declared the culprit. "No, I kept the words shut up tight; but it's the very same kind of kitten it was yesterday."—Lippincott's.

WHO, INDEED?

An old Scottish minister took it into his head to marry his housekeeper. His preceptor being ill on the day when the banns were to be proclaimed, the minister, not caring to make the intimation himself, arranged with his herdboy to do it.

"Now," he said, "you must call out in a loud voice, 'Proclamation of marriage between the Rev. Mr. Murray, of this parish, and Jean Lowe, o' the same.' Ha! ha!" laughed the minister, as he concluded. "Wha'd hae thoct it?"

The Sabbath came round and the congregation assembled. When the moment arrived the lad, who had duly prepared himself, rose and called out: "Proclamation of marriage between the Rev. Mr. Murray, of this parish, and Jean Lowe, o' the same. Ha! ha!" he laughed, thinking this to be a part of the proclamation. "Wha'd hae thoct it?"

A SOCIAL HAPPENING.

Little Alphonso, Jr., had been carefully trucked into bed, had asked for his last drink of water, and was about to dream material for new questions when his mother heard, as she was carefully and quietly folding the little garments in the dim light, "Mother, how was it I first met you?"—October Lippincott's.

REG. BERKSHIRES

ready for shipment. Will sell cheap. S. C. B. LEHIGH chickens, etc. each; good, healthy well bred stock. 3 year old Reg. Jersey Bull at \$50. Selling to prevent inbreeding. EVERGREEN DAIRY & STOCK FARM, W. B. GATES, Propr., Rice Depot, Va.



ORCHARD HILL PURE-BRED

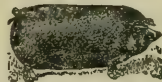
POLAND CHINAS

Two fine litters of pigs now ready for sale; six beautiful young sows ready to breed, and a fine Guernsey bull calf, one month old. F. M. SMITH, JR., R. F. D. No. 4, Charlottesville, Va.

Registered Poland Chinas

1 year old Reg. P. C. SOW, bred to Reg. P. C. Boar. \$25.
3 mos. P. C. PIGS, eligible to registry, \$5 each.

SILVER LACED WYANDOTTE COCK-ERELS, \$1 each. Fine birds. E. T. ROBINSON, Lexington, Va.



Registered P. Chinas
Berkshire
C. Whites Large strain. All ages mated not akin. Bred sows, Service boars, Guernsey calves, Scotch Collie pups, and Poultry. Write for prices and free circular.
P. F. HAMILTON,
Cochranville, Chester Co., Pa.

EDGEWOOD STOCK FARM,

has for sale a choice lot of

REG. POLAND CHINAS

of the FINEST STRAINS, descendants of prize winners. BILTS BRED SOWS and ready-for-service BOARS for sale cheap to make room for spring litters. Must be sold. Orders booked for spring pigs. Don't fail to get my prices before buying elsewhere. Customers in several States. Mention the Southern Planter. W. B. PAYNE, Crofton, Va.

Duroc Jerseys

FROM REGISTERED STOCK.

A few nice Sow Pigs of March, 1904, farrow. Also a nice lot of August and September, 1904, farrow of both sexes for sale. Stock guaranteed as represented. Give me an order and I will please you.

D. L. ROBERTSON,
Marmaduke, Warren Co., N. C.

Salt Pond Herd.

DUROC JERSEYS

Home of Paul J. 21625, Also Lulu's Pet 40434. Pigs of March and May farrow for sale. Write for what you want.

S. A. WHITTAKER, Hopside, Va.

VERY FINE Duroc PIGS FOR SALE

Also, handsome SETTER DOG eight months old; pure black ANGORA KITTENS.
A. F. LOCKWOOD,
Orange, Va.

Poland-Chinas and Chester Whites

AND MAMMOTH BRONZE TURKEYS

AT FARMERS PRICES.

S. M. WISECARVER, Rustburg, Va

:: SOME VERY FINE ::

RED POLLED

Calves, entitled to registry, for sale; also a few very good

Poland China Pigs

whose breeding cannot be excelled. Only one SHETLAND PONY for sale now. ARROWHEAD STOCK FARM, SAM'L B. WOODS, Propr., Charlottesville, Va.

PLEASANT VALLEY STOCK FARM

Shorthorn

calves from fine milking stock.

Yorkshire Pigs

of prolific breed.

JAMES M. HOGE, Hamilton, Va.

THOROUGH-BRED....

Berkshire Boars, Dorset Buck Lambs, Jersey Bull Calves.

All stock in best of condition and guaranteed as represented.

F. T. ENGLISH, Centerville, Md.

OAK-HILL FARM

SADDLE HORSES, JERSEY AND ABERDEEN ANGUS CATTLE, BERKSHIRE, POLAND CHINA, RED JERSEY, and TAM-WORTH HOGS, FOR SALE

WRITE FOR PRICES.

Shipping point Oak-Hill, Va., (Station on farm) on D. & W. Ry. 15 miles west of Danville, Va. SAM'L HAIRSTON, Wenonah, Va.

IN ALL THAT'S GOOD, OWENS OFFERS THE BEST The Cedars Kennels, Poultry and Stock Farm.

Home of the most fashionable strains of Llewellyn Setters, Beagle Hounds, Jersey Cattle, Duroc Jersey and Poland China Swine, M. B. Turkeys and B. P. R. chickens. Fanciers' Stock—Farmers' Prices. WM. G. OWENS, Midlothian, Va.

OAK - GROVE - STOCK - FARM

offers for sale a number of fine ESSEX PIGS November delivery. Also some choice POLAND SHOATS, March, 1904, farrow, \$15 per pair. Your orders solicited. All stock as represented. L. G. JONES, Tobaccoville, N. C.



A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

GOOD HOUSEKEEPING.

GREEN TOMATO CATSUP.

One peck of green tomatoes boiled soft in a half gallon of vinegar. When done press through a sieve. Add one teacup of sugar, one-half ounce each of cloves, allspice, cinnamon and black pepper, four ounces of horseradish, one dozen silver skinned onions, chopped fine, one ounce of garlic, three pods of green pepper, boil till very thick. Take from the fire, add three pints of good vinegar. Bottle and cork. Dip each cork, after pressing it in tight, in a cement made of equal parts of wax and beef suet. Be careful not to break the cement and your catsup will keep indefinitely.

CORN BATTER CAKES.

Two pints of corn meal, one pint of flour, three eggs beaten light, one and a half teaspoons of soda, one tablespoon of lard, one teaspoon of salt. Make into a thin batter with buttermilk. Fry on a hot griddle.

BREAKFAST PUFFS.

Mix one teaspoon of salt in one of baking powder and sift them in one quart of flour. Add the well-beaten yolks of three eggs, one tablespoon of butter and nearly three cups of sweet milk. Stir together lightly, and just before baking add the whites of the eggs, beaten stiff. Bake quickly in well greased patty pans or muffin rings.

FRITTERS.

Beat three eggs very light and add to them a heaping tablespoon of butter, a pint of flour, one level teaspoon of soda, dissolved in a little hot water and nearly a pint of buttermilk. Mix very smooth and drop by spoonfuls into deep boiling fat. Fry to a light brown, skim out and sprinkle with powdered sugar and serve with wine sauce, or have the butter, sugar and wine on the table and let each person season to taste.

BEEF PUDDING.

Chop the beef and potatoes, about a third as much potato as beef; do not grind; this makes it pasty. Put them into a pudding dish, a thick layer of the meat and then a thin one of the potatoes, then a sprinkling of bread crumbs, pepper, salt, a little celery seed, and if you choose a shaving of onion, then meat again, and so fill the dish. Pour over it a gravy from boiling the bones in water. Let the top layer be bread crumbs, and after pouring the gravy over it put a few rings of hard boiled eggs and lumps of butter all about the top and bake until the potatoes are done. This is a good way to use up scraps.

CARAMEL PIE.

Three tablespoons of butter, three eggs, two cups of sugar, two tablespoons of flour, half a cup of milk, and half a nutmeg. Beat all well and add two cups of damson preserves. Bake in an open crust. If you have no damsons, any acid jam or jelly will do as well.

SWEEP POTATO CUSTARD.

Boil the potatoes done. Peel and

REGISTERED

SHORTHORNS

A few choice BULL CALVES 6 months old for sale at reasonable prices. Write me for further information. I. S. EBERLY, Glendale, Va.

WILLOW GLEN

Short = Horns.

Special offering of two and three year old heifers with calves at side. Also nine head of splendid young bulls. Prices low if sold at once. Inspection invited. DR. D. M. KIPPS, Front Royal, Va.

ELLERSLIE FARM

Thoroughbred Horses

AND SHORTHORN CATTLE,
Pure Southdown Sheep
and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.

Springwood Short-Horns

Young stock for sale, sired by Royal Chief, No. 135432; he by Imported Royal Stamp, Champion Bull at Ohio State Fair this year. Spring and fall Poland China Pigs and shoats; sired by Coler's Perfection. I will sell this hog at a bargain. Call on or write WM. T. THRASHER, Springwood, Va.



COOK'S CREEK HERD
SCOTCH - TOPPED
SHORTHORNS...

Herd Headed by Governor Tyler, 188548, 1st prize aged bull at Radford Fair, Young Bulls and heifers for sale. Inspection and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

RED POLL BULL,

5 years old, Registered, for sale. Price, \$100; also Reg. POLAND CHINA BOAR, 1 year old. Price, \$25. Address G. F. COX, 1300 E. Main street, Richmond, Va.

I WILL TRADE FOUR PURE-BRED POLLED DURHAM BULLS

(double standard) for a team of Matched Carriage Horses. Address FIELD, Box 656, Knoxville, Tenn.

"Feeds and Feeding"

Prof. Henry's Great Book for
Farmers and Stockmen.

Delivered anywhere for \$2.00
With the SOUTHERN PLANTER, 2.25

Mention THE SOUTHERN PLANTER in writing.

Elkton Stock Farm,

LOCATED ON NORFOLK & WESTERN R. R.

12 Miles W. of Lynchburg.

Breeders of Pure Bred, Registered

HEREFORD CATTLE

AND

BERKSHIRE HOGS.

Young stock for sale at all times, at reasonable prices.

All statements and representations guaranteed.

LONG DISTANCE TELEPHONE.

FOREST DEPOT, VIRGINIA.

Aberdeen-Angus Bull Calves For Sale

Born as follows: Dec. 15, 1903; Jan. 30, 1904; May 15, 1904; June 2, 1904; Aug. 11, 1904. Calves will be kept with their dams until 3 mos. old. None sold younger, and NOT SOLD AT ALL AS BULLS, unless they turn out good specimens of the breed.

I shall also be ready to part with my herd bull, "ROCKBRIDGE ABACTOR," 40684, Nov. 1st. He will be 5 years old Dec. 2, 1904.

The two calves first mentioned are pure bred and very promising youngsters, but out of unrecorded dams; the three last are registered. I am willing to exchange "ROCKBRIDGE ABACTOR" or any of the above calves for a suitable herd bull not less than 18 mos. old.

B. F. DAY, Glasgow, Va.

ANGUS HERD BULL FOR SALE

To prevent inbreeding, we offer our herd bull, PAGAN, 26416; sire, BARONET NOSEGAY, 12889; dam, PRINCESS ERICA OF LINN, 10399. Pagan is 7 years old, weight, 2,000 pounds, vigorous, active, perfectly broken, an excellent sire. Address ROSE DALE STOCK FARM, Jeffersonston, Va.

MONTEBELLO HERD

ABERDEEN-ANGUS CATTLE.

FOR SALE—Registered Bull calves from 3 months old up.

L. H. GRAY, Orange, Va.

To reduce my herd of

JERSEYS

I will sell 4 or 5 first class family cows, now in calf, at very low prices; also 2 Reg.

BULL CALVES.

4 to 6 mos. old. One is a son of RIOTA'S PRIMA DONNA, tested 17½ lbs. butter in 7 days; the other, a son of LADY MADELINE, who gave 200 lbs. more milk per month than her own weight. Price, \$50 each; also 10

JERSEY HEIFERS.

from 6 to 15 mos. old, from my very best cows, and no better in Virginia, for \$30 each. These cattle are in fine condition, kindly handled, and will make valuable animals.

A. R. VENABLE, JR., Manager, Farmville, Va.

25 REGISTERED

HOLSTEIN and GRADE

Milk Cows for sale. Most of them to calve this fall. H. W. MANSON, Crewe, Va.

weigh. To one pound of potatoes add a cup and a half of butter, two cups of sugar, the yolks of six eggs, beaten light, a half cup of milk. Beat all well and add the whites beaten to a froth. Mix, season with fresh lemon, and bake in pudding dish or in pastry.

MOLASSES PIE.

Two cups of molasses, five eggs beaten separately, one and a half cups of brown sugar. One large spoon of melted butter, half a nutmeg, and a tablespoon of flour. Beat all well together, and bake on rich pastry.

GINGER COOKIES.

One cup of butter, one cup of sugar, one cup of molasses, two even teaspoons of soda, one tablespoon of ground ginger, a teaspoon of cinnamon, two eggs, enough flour to make a soft dough. Roll thin and bake quickly. Dissolve the soda in warm water.

APPLE FLOAT.

Select large firm apples and put them into a new tin pan with a little water in it. Bake them thoroughly done, then let them cool, and with a spoon scrape out all the pulp, being careful not to let any of the core get in; sweeten and season this pulp, then add to each quart the well beaten whites of four eggs. Serve at once with cream seasoned with vanilla.

WALNUT TEA CAKE.

One cup of butter creamed with three cups of sugar, five cups of flour, five eggs beaten light, one teaspoon of soda, two teaspoons of cream tartar, milk enough to make a stiff dough; it will take very little. Roll thin and cut into squares. Bake in a quick oven. Boil two cups of granulated sugar till it threads from the spoon; have ready beaten very light the whites of three eggs. Pour the sugar over them very slowly, stirring all the time and adding a cup of chopped walnut meats. Ice each little cake with this and set it aside to dry.

PUMPKIN PIE.

Cook a yellow pumpkin thoroughly; mash and press through a sifter. To four cups of pumpkin, add four cups of milk, a teacup of butter, three cups of sugar, four teaspoons of cinamon, two of ginger, one of grated nutmeg, and a half teaspoon of cloves, eight well beaten eggs. Mix all these ingredients together and bake in a rich crust. Serve cold.

CARAVEN.

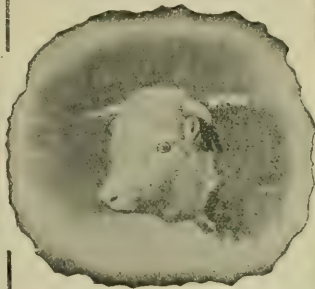
Mr. Brown's little daughter, aged ten, accidentally swallowed a nickel. He sent his little son, aged six, in great haste for the doctor.

The child soon returned with the doctor and also the minister. His father met them at the gate, and, sending the men into the house, he kept his son outside and asked him why he had brought the minister.

"Papa," answered the little boy, "I heard you tell mamma, last Sunday at dinner, that this minister could beat any man you ever saw for getting money out of people."

HEREFORDS!

The very best breed of beef cattle for the South is the HEREFORD. I am convincing scores of farmers of this fact, as evidenced by my sales. When a purchaser sees for himself what these cattle are doing, I don't have to argue any longer. When he sees a HEREFORD keep in better condition than the scrub in the same pasture with him, or lay on more fat on the same or less feed, or sees a grade HEREFORD CALF sell for \$10 or \$15 at 6 weeks, or go to the slaughter-house at 20 months weighing 1,200 to 1,500 pounds, is it any wonder that he is convinced of



the superiority of the breed? There are lots of farmers and stockmen to be convinced yet. I believe if interested parties would come (and this is a special invitation to come) and inspect the CASTALIA HERD, half of the task would be accomplished. I will meet any one if notified. To those who cannot come, I will say that if you will write me your wants, I will give you the benefit of my best judgment in making a selection. I am sure to have something—BULL, COW, or HEIFER—which will suit your fancy, and purse also.

MURRAY BOOCOCK,

"Castalia,"

KESWICK, ALBEMARLE COUNTY, VA.

TRAINING FOR YOUNG FARMERS.

The popular course for young farmers in the North Carolina A. & M. College, Raleigh, N. C., known as the Short course in dairying and agriculture, opens this year January 4, 1905, and continues for ten weeks, closing March 10, 1905.

On account of many improvements in the line of work introduced, the work will be for more interesting and important than before. A new course in Farm engineering that will be given in connection with the other studies will add much to the importance of the work. This study will embrace rural architecture, and farm machinery, and special stress will be placed upon designing barns, houses, silos, etc.

Another course that will be added is that of Farm Management, which will include a discussion of the management of the farm in various details.

A third new course that will be offered will be the Cotton course, which will include cotton growing, judging, breeding, and soil management in all of its phases. It is believed that the cotton course will be especially important to the young farmers in our State, and it should receive the attendance of every young cotton farmer who can get away from home during the winter months.

No entrance examination is required in these winter courses, and no tuition is charged at all. Practical courses are hereby open to all who desire to better themselves in the various lines of agriculture. The total cost for ten weeks, including board, room, light and fuel, etc., is but \$30. Young men contemplating attending should send in their application at once to C. W. Burkett, Professor of Agriculture, West Raleigh, N. C., as all students are registered in advance of the opening date.

DIDN'T KNOW BEANS.

Senator Hoar relates with much glee the conversation that recently took place between two Southerners, the first of whom had but lately returned from a trip through New England. Said the first man from Dixie to his friend:

"You know those little, white, round beans?"

"Yes," replied the friend, "the kind we feed to our horses?"

"The very same. Well, do you know, sir, that in Boston the enlightened citizens take those little, white, round beans, boil them for three or four hours, mix with them molasses and I know not what other ingredients, bake them, and then—what do you suppose they then do with the beans?"

"They—"

"They eat 'em, sir!" interrupted the first Southerner, impressively. "Bless me, sir, they eat 'em!"—Edwin Tarzisse, in October Lippincott's.

Mention THE SOUTHERN PLANTER in writing.

ACME Pulverizing Harrow

Clod Crusher and Leveler.

SIZES
3 to 13½ feet

Agents
Wanted.



The best pulverizer—cheapest Riding Harrow on earth. We also make walking ACMES. The Acme crushes, cuts, pulverizes, turns and levels all soils for all purposes. Made entirely of cast steel and wrought iron—indestructible.

Sent on Trial

To be returned at my expense if not satisfactory. Catalogue and Booklet "An Ideal Harrow" by Henry Stewart, mailed free.

I deliver f.o.b. at New York, Chicago, Columbus, Louisville, Kansas City, Minneapolis, San Francisco, Portland, etc.
DUANE H. NASH, Sole Manufacturer, Millington, New Jersey.
Branch Houses: 110 Washington St., Chicago. 240 7th Ave. So., Minneapolis. 1316 W. 8th St., Kansas City.
PLEASE MENTION THIS PAPER.

FOR SALE.

10 Registered Jersey Heifers

Due to calve this fall and winter.

Several Registered HEIFER CALVES, four months old, at \$25 each, if taken this month, and a few BULL CALVES at farmers' prices.

Also several GUERNSEY BULL CALVES, BERKSHIRE BOARS, SOWS and PIGS.

Two grand guard Dogs (Danes), 6 months old, at \$20 each.

M. B. ROWE & CO., Fredericksburg, Va.

— URY STOCK FARM HERD OF —

HOLSTEIN-FRIESIANS

DE KOL 2D BUTTER BOY 3D No. 2 heads our herd; his breeding and individual excellence are second to none. A few COWS, YOUNG BULLS and HEIFERS from our best cows, for sale. All the leading families represented.

ENGLISH BERKSHIRE pigs by such Boars as MANOR FAITHFUL, Imp.; wt. 1100 lbs.; FANCY DUKE, a double grandson of LOYAL BERKS; ESau PRINCES OF FILSON, by ESau, Imp. THOS. FASSITT & SONS, Sylmar, Md.

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Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS AND HEIFERS.

None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 4 to 6 months old, \$25; Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

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THE WOODSIDE HERD

FOR SALE; 2 grandly bred

JERSEY BULLS,

1 year old. For prices and description, address,

DAVID ROBERTS, Moorestown, N. J.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

COTTAGE VALLEY STOCK FARM.

FINE STOCK FOR SALE LOW

7-8 and 15-16 GRADE ANGUS BULLS and HEIFERS from 6 months to 2 years old. One Bull Calf, half Angus and half Short-Horn. Fine family Milk Cows fresh, young and gentle. One pair splendid 1,200-pound Bay Mares 6 years old, first-class all-round farm teams, and very good roadsters. One fine SADDLE MARE, 4 years old, very handsome and stylish, every gait, Hackney and Hambletonian. One beautiful DRIVING MARE, coming 4 years old, three-fourths Hackney, one-fourth Hambletonian. These Mares are well bred and nice enough for any one. Pure-bred Poland-China Pigs at \$5 each. Pure-bred Llewellyn Setter Pups, \$5 each. Silver-Laced Wyandotte Cockerels and Pullets at \$1 each.

W. M. WATKINS & SONS, Saxe, Va.

— MORVEN PARK —

GUERNSEYS

The Property of WESTMORELAND DAVIS, Esq.

LARGE HERD OF FASHIONABLY BRED REGISTERED ANIMALS, INCLUDING COWS IN THE ADVANCED REGISTRY. HERD HEADED BY THE BRILLIANTLY BRED IMPORTED BULL,

TOP NOTCH No. 9023.

The Dam of this Bull, Imported ITCHEN BEDA, took 1st prize at the "Park Royal" Show in England in 1902, and her daughter ITCHEN BEDA II, took the same honors in 1904: further, Imported TOP NOTCH'S Dam, ITCHEN BEDA, entered the official advanced Registry of the American Guernsey Cattle Club this year with a record FOR THE YEAR of 10642.10 lbs. of milk; 548.70 lbs. of butter fat, equivalent to 640.15 lbs. of butter.

The Pedigree of Imported TOP NOTCH, with some of the achievements and prizes won in the direct line of his ancestry, are given below:

TOP NOTCH, 9023, bred by Sir Henry Tichborne, of England, was sired by Rival, 1343 E, and is out of imp. Itchen Beda, 15627. His father, Rival, by Rival of Mont March, 1154, P. S., out of Clatford Gentle, 4746, E. (first prize English Royal, B. & W. E. and Royal C., 1900). His mother, Itchen Beda, 15627 (see record above); she by Loyal of Hunguets, 978, P. S. (first prize, 1896, second prize, 1898); sire of Itchen Lady, Hayes Lilly du Preel. His extended pedigree is impossible in this space, but will be furnished if desired. It goes back to winners of the Queen's prizes, as well as to members of her late Majesty's Prize Herd.

MORVEN PARK is situated in Loudoun County, Virginia, and because of its climate and soil is peculiarly adapted to the production of the highest class of animal life, and particularly to supply the needs of Southern breeders of pedigreed cattle.

REGISTERED and TUBERCULIN TESTED animals for sale, including a fine lot of BULL CALVES at reasonable prices.

For further particulars, Address

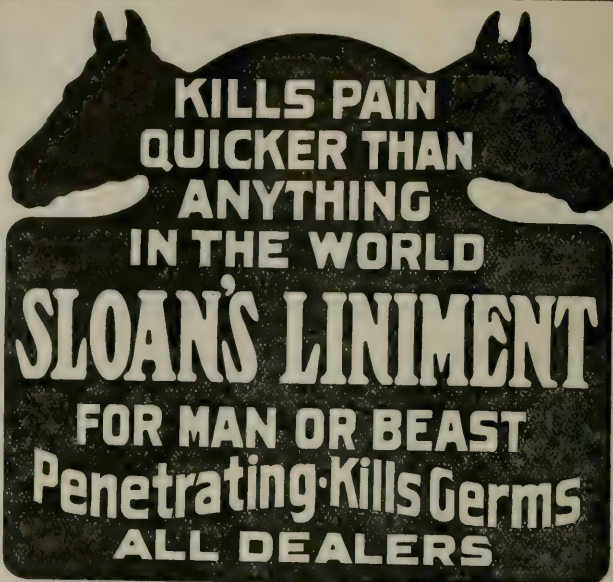
LIVE STOCK DEPARTMENT, MORVEN PARK,
LEESBURG, LOUDOUN CO., VA.

NOTES FROM THE WEST.

Billings, Mont., October 10, 1904.

Billings lies in the heart of the famous Yellowstone Valley, a land of sheep and cattle, and great fields of grain and alfalfa to feed them, and of potatoes and fruit, and, in fact, almost everything that will grow in a temperate zone. Yellowstone farming by irrigation is young, but Billings aspires to be the centre of a potato world as famous as Greeley, of apple raising as noted as northern New York, of muskmelon growing as well known as Rocky Ford, and of beet sugar making as prosperous as Sugar City or Oxnard. It has the climate—the long days of sunshine—it has the rich soil, and keystone to the whole, it has the waters of the Yellowstone river.

Billings has seen a wonderful transformation in the Yellowstone Valley. First, it was simply a cattle pasture, where it took thirty acres to support a steer. Then gradually came the big fields of alfalfa, after the first irrigation canal was built, now we find diversified farming, and the division of the larger tracts into smaller farms with diversified crops. I enjoyed a dinner with the family of my old friend, I. D. O'Donnell, well known throughout Montana as "Old Alfalfa," and with the exception of the coffee and the sugar and the salt everything upon the table was raised upon his own farm, and it was a bountiful repast. Of course, this is not such a strange thing to find among Eastern farmers, but it is a bit unusual in a new country, where the first development of agriculture has been the cattle ranch, and where the condensed milk can and the canning factories have found all too ready a market, for the agricultural good of the country. And while I am speaking of Mr. O'Donnell's farm and garden, I will say that there are too few ample and abundant gardens, thoughtfully laid out and planted and well tilled, even in the East. The really ideal farm garden, furnishing not only a wholesome and luxurious table all the growing season, but dried and home-canned products for all the winter, is the exception rather than the rule, even in the good farming sections in the East. We are not thinking too much of our stomachs, and our animal desires when we make the best garden possible. Many a kitchen garden which is to, or at least should, furnish most of the motive power to carry on the work of the farm, is the product of odd times, between the planting of the "money" crops. Money crops for what? To buy, in considerable measure, things unnecessary or which could better be raised on the farm. The farmer who plans broad and deep to get every particle of his living possible from the soil by his labor has a wisdom from which many of our people have departed. How many things do we buy regularly, because they are cheap, which we could either do without very



**KILLS PAIN
QUICKER THAN
ANYTHING
IN THE WORLD**

SLOAN'S LINIMENT

FOR MAN OR BEAST

Penetrating·Kills Germs

ALL DEALERS

The Grove Stock Farm

I OFFER AT RIGHT PRICES THE FOLLOWING STOCK:

- One yearling **HOLSTEIN-FRIESIAN BULL**,
Seven **BULL CALVES** (same breed), 2 to 6 months old
(These calves are from heavy milkers),
Six **BERKSHIRE SOWS** (1 year old),
Ten **BERKSHIRE SOWS** (5 months old).

All of the above will be registered and transferred to the buyer.

N. & W. and Southern Railways.

T. O. SANDY, Burkeville, Va.

YORKSHIRE PIGS

Our spring pigs have all been sold and we are now booking orders for

FALL PIGS

for November and December delivery. The great display of Large Yorkshires at the recent Live Stock Show at the World's Fair, shows the growing popularity of this profitable bacon breed.

Also **Jersey Bulls and Heifers**,
from our high testing herd.

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IS YOUR FARM FOR SALE?

If so, list it with us. No sale, no charge.
Largest list of farms for sale in Virginia.
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YAGER'S CREAM CHLOROFORM: LINIMENT

is a never failing Pain Remover; it is a standard and reliable home remedy, always ready to kill pain from any cause; it is to be found in every up-to-date stable or barn, as it is recognized as the best of liniments for stable use. It is truly a LINIMENT FOR MAN OR BEAST, and should be a part of every farmer's outfit—in fact, he cannot well afford to be without it.

Mr. HENRY MYERS, of Bridgeport, Conn., says:

"I have used YAGER'S LINIMENT for two years; it is the only thing that gives me relief in my back."

Mrs. A. H. McLAUGHLIN, of Petersburg, Va., writes:

"I can speak in highest praise of YAGER'S LINIMENT. I suffered greatly with a severe pain in my back. Yager's Liniment cured it. For many nights I could not sleep from a sprained wrist; Yager's Liniment cured it. I had something like a wen on my left shoulder that worried me considerably; I bathed it several times with Yager's Liniment and in less than a week it was gone."

Mr. W. M. STUBBS, of Plymouth, N. C., writes:

"I have recently used YAGER'S LINIMENT for a mashed foot; it acted like a charm, and I believe it to be the best external remedy on the market."

Mr. DAVID BRADLEY, of Wilscot, Ga., writes:

"I have suffered for a long while with rheumatism, and YAGER'S LINIMENT gave me so much relief that I never want to be without it."

Mr. ISHAM TRICE, of Chapel Hill, N. C., says:

"I must write a few lines of gratitude for Yager's Liniment. Recently I wrenched my shoulder severely and went to the drug store for something to relieve it, and a large bottle of YAGER'S LINIMENT was offered me for 25c. I was tempted to refuse it; could not believe it was any good, but since using it I must say it gave me quicker relief than I could believe was in it."

YAGER'S LINIMENT is put up in a large bottle, as is shown by the cut of the package, but it is as good as it is big, and at 25c. per bottle is within reach of everybody—and everybody uses it in preference to any other Liniment because there is none other so good. YAGER'S LINIMENT is sure; it NEVER FAILS to relieve pain—try it.

FOR MAN OR BEAST—YAGER'S LINIMENT IS JUST RIGHT.

YAGER'S
LINIMENT
FOR
MAN OR BEAST

POPULAR
SOOTHING
FOR ITS EFFECT
QUICK HEALING POWERS.
IN THE TREATMENT OF DISEASES REQUIRING
AN EFFICACIOUS EXTERNAL REMEDY.

BEWARE OF IMITATIONS.

PREPARED ONLY BY
GILBERT BROS. & CO.
SOLE PROPRIETORS
BALTIMORE, M.D.
U.S.A.

WHEN YOU GET YAGER'S FOR 25 CENTS, WHY TAKE A SUBSTITUTE?

EXACT SIZE OF BOTTLE.
TAKE NO SUBSTITUTE.

well or which we could make better at home. We may buy tomatoes and canned corn and canned lima beans and jellies and preserves and thus support several classes of merchants and jobbers by the profits made, but what do we get to eat? The poorest, unripe vegetables, colored and sweetened with hurtful chemicals, and fruits, so-called, made from glucose and colored and sweetened with coal tar. The American people somehow seem to have gotten rooted in the belief that to live they must trade their labor for money, and then go with that money in their hands and trade it again for something to eat and to wear. Instead of producing these things themselves.

The fake creamery promoter is reported abroad. It is well to cast the eye of suspicion upon his kind, for he is always a smooth one. His business is to organize a co-operative creamery company among farmers surrounding a town and sell the organization a \$2,000 outfit for about \$4,000. A business-like individual appears in the town where it is proposed to victimize the farmers, takes rooms at the best hotel, and begins to talk "creamery." He is always supplied with the most convincing statistics of what he has accomplished in this line elsewhere, either counterfeit or gathered from localities peculiarly adapted to the business. In two weeks a meeting is called by influential farmers, and the plot from this point moves rapidly to completion. The promoter receives his money and moves quickly on to new fields and the farmers hold the sack.

While I stopped at Billings, George H. Maxwell the executive chairman of The National Irrigation Association, addressed a meeting of the people, at which he unfolded a plan for putting people onto land, which, if it can be worked out will become one of the most important sociological movements of the times. He suggested that if the people of Billings would take it up and organize he would undertake to secure subscriptions sufficient to establish at the outskirts of the town an agricultural colony where 160 acres could be secured, with a good irrigation supply and divided up into one-acre tracts and provided with competent farm instructors, so that men in the eastern centres who have saved a little money and wanted to get a little country home could come out and stay on two of these acres for a year or two and be taught how to farm and to manage. Then they would feel confident in looking about and buying a fine acreage and making their home upon it. He stated that there are thousands and hundreds of thousands of such men in the Eastern States and cities who are anxious to get such small farms where they can make their homes, but that their training has been all their lives away from mother earth, and they are afraid to



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The name—on a rifle or shotgun—that guarantees perfection in accuracy, reliability and safety. It would require many columns of this publication to tell all about "Stevens" famous guns. We want you to know about them, and we make it worth your while to learn about them.

OUR FREE OFFER

If you will send us your name and address, enclosing two 2-cent stamps to cover postage, we will send you our great book of outdoor sports, containing 140 pages of interesting and useful information on hunting, camping and wood craft, the proper care of a firearm, notes on sights and ammunition, as well as full descriptions of the famous "Stevens" Guns—the book every lover of outdoor life should have.

Our clever Rifle Puzzle sent free, postpaid.
J. STEVENS ARMS AND TOOL CO., 380 Pine Street, Chicopee Falls, Mass., U. S. A.

Large English Berkshires.

BOARS ready for service.

Pigs ready to ship.

Bred Gilts.

Forest Home Farm,

Purcellville, Va.

THE - OAKS - STOCK - FARM.

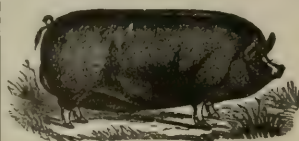
A. W. HARMAN, Jr., Treasurer State of Virginia, Prop. Richmond, Va.

We breed and ship the FINEST STRAINS of

Large ENGLISH BERKSHIRES

for less money than any firm in the South, quality considered. Every pig shipped possesses individual merit. Pedigree furnished with all stock. Kill or sell your scrubs and buy hogs that will pay. For prices and description, address ALEX. HARMAN, Mgr., Lexington, Va.

25 Tons of Choice Timothy Hay For Sale.



GLENBURN FARM BERKSHIRES

This herd is composed of four royally bred, imported sows, and an imported boar from the celebrated herds of Mr. Fricker and Mr. Hudson, England, and selected American bred animals from Bltmore and other noted herds. Dr. J. D. KIRK, Importer and Breeder, Roanoke, Va.

take the plunge. This plan would open the door of opportunity to them. The working out of this plan, Mr. Maxwell said, would furnish a supply of ideal colonists for any new country, and it would at the same time tend to relieve the congested centres in the East. If the outcome of a single such rural instruction colony should prove successful, he believed that every Western centre with new and undeveloped tributary country would adopt the plan, for it would bring them in tenfold returns, both indirectly and directly. That it was not a chimera of his brain, he stated that one of the Southern transcontinental railroads had already started the system in Arizona, in the irrigated Salt River Valley, and was now dividing up a 160 acre tract into acre farm gardens and had engaged one of the best farmers in Arizona as an instructor.

The editor of the American Agriculturist, who has been travelling around the country to note economic conditions, says that the American farmers will receive more money for their products in 1904 than in any previous year, and that "the relative decrease in price of many manufactures the farmer has to buy, and the high range of values of what he has to sell, will make 1904 the most profitable one in the history of American agriculture. The editor is of the opinion that the agricultural vote will elect the next President.

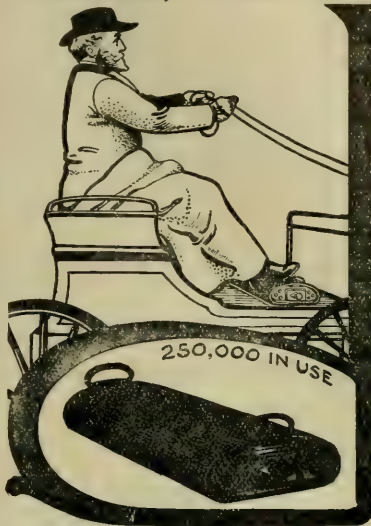
The prediction of Senators and Representatives, who may be presumed to know their own people, that the States of the middle and prairie West are going to give heavy pluralities for the Republican ticket, are bottomed on the conspicuous fact of the unparalleled and continuing prosperity of the agricultural classes.

The muck pit should be drawn upon sparingly unless cheap lime is at hand. Muck often contains iron pyrites, which, when exposed to air, oxidizes to iron sulphate or copperas. The sourness of muck or peat is often due to this. Free sulphuric acid may form in such cases, especially in the presence of decaying organic matters. The injurious action of muck on plants is often due to these cause rather than to any peculiarity of their nitrogen. Thorough composting with lime is a remedy for these conditions.

GUY E. MITCHELL.

"Remember this," said the primary school teacher, "a plural subject takes a plural verb—a girl is, a boy is; girls are, boys are. Now, do you understand?" Every hand was raised in assent. "Well, then, who will give a sentence with girls in the plural?" This time only one little girl: "I can give a sentence. 'Girls, are my hat on straight?'"

The Best, North, South, East or West



is the general opinion formed by those who use the celebrated

LEHMAN Carriage and Sleigh HEATERS.

They are the original, having been on the market for 20 years, and are known as the Standard.

250,000 of our Heaters are in use. They are universally known to be the STANDARD, and are used by horsemen, physicians, farmers, etc., everywhere.

They burn Lehman Coal, which gives no smoke nor smell, and from which there is no danger whatever. It costs only 2 cents per day to heat them. Be sure you get the LEHMAN if you want the BEST. Beware of imitations. Our heaters and coal are sold by leading dealers everywhere.

Send for our illustrated booklet, and mention this paper.

LEHMAN BROS. Mrs.,

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General Western Sales Agent,
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BERKSHIRES! * * * BERKSHIRES!

The following up-to-date stockmen think **ROYAL BERKSHIRES** the finest the world can show. I could print thousands of the same opinion, but I take only one from each State:



P. H. Rudd, Mariners Harbor, N. Y.; Col. F. C. Goldborough, Easton, Md.; J. M. Venable, Farmville, Va.; Edgar Long, Graham, N. C.; John C. McAfee, Chester, S. C.; Dr. S. W. Fain, Dandridge, Tenn.; President Bowdrie Phinizy, Augusta, Ga.; R. C. McKinney, Bassinger, Fla.; General Thos. T. Munford, Uniontown, Ala.; W. W. Cornelius, Blue Springs, Miss.; J. M. Gann, Varnada, La.; E. F. Van Horn, Toyah, Texas; D. C. Lester, Hatfield, Ark.

Take no risk; confer with these people, and order direct from the veteran breeder.

THOS. S. WHITE, Fassifern Stock Farm, Lexington, Virginia.

Five car loads bright Timothy Hay for sale, cheap.

BLUE-BLOODED BERKSHIRES.

The grand brood sows **GEORGIA'S HIGHCLERE**, No. 66136, and **CAMEL**, No. 64085, have farrowed; these pigs were sired by the great boar, **COLUMBIA**, No. 60627. **CAMEL**, 2d, No. 75518, has farrowed a litter by a son of the celebrated boar, **MANOR FAVORITE**. The above were all large litters of very fine pigs.

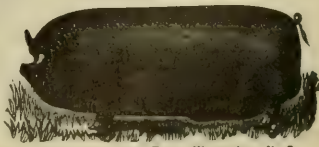
The head of this herd is **COLUMBIA**, No. 60527, an imported son of the celebrated **FIRST CATCH E.**, and he is practically a full brother to the sire of the celebrated **Manor Favorite**. **Columbia**, we think, is one of the best boars in the United States. **Georgia's Highclere** is a grand sow, and would be very hard to beat if in show ring condition; she is of the best Highclere breeding; **Camel** is an imported granddaughter of the celebrated **Loyal Berks**. She is an extra fine brood sow; **Camel** 2d was imported in her dam. She has 37½ per cent. of the blood of **Loyal Berks**.

Here is the place to get the blood of the most fashionably bred Berkshire families—viz., the Highcleres, **First Catch F.**, **Loyal Berks** and **Manor Favorite**. For further information and prices address **A. H. HODGSON**, Athens, Ga., or **F. M. HODGSON**, West End, Va.

We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

Proprietor of the Bride Creek Stock Farm, Warrenton, N. C.



ANTE-NATAL INFLUENCES.

MARY WASHINGTON.

A woman's responsibility as a mother antedates even the moment when her newborn infant draws its first breath, or gives its first cry that sounds so thrilling to a mother's heart. It dates back to the first embryonic development of the child that is to be. It is a solemn—nay, a fearful thought how largely a child's whole future character and career will be influenced by the mental and physical condition of the mother during the period of gestation by her predominant state of feeling, by the thoughts she thinks and dwells upon most, by the books she reads, the pursuits she follows, the persons she associates with most intimately—in short, by all the elements that enter into her mental and physical environment. The mother's state, both of mind and body, leave their impress on the child in the womb, and therefore even before the little creature has come forth into actual existence the expectant mother has a wide scope for maternal care and tenderness, inasmuch as she can strongly influence the moulding of the embryonic brain and the whole being of the child, both mental and physical. What holier and more important task could a woman set for herself than to strive with especial diligence during these nine momentous months to keep her heart in "tune with heaven," to accentuate all good and pure affections, and to strive after a bright, cheerful, serene frame of mind, the true Christian optimism. If such a frame of mind could be predominant with her, she would be assisting largely in laying up real treasures for the child to come. A woman ought, if practicable, to carry on some improving, refining and interesting pursuit at this time, good reading or music, drawing, or painting, if she has any turn for such things, and, if not, even to be in their atmosphere will be some advantage. The reason the old Greeks were such a beautiful race was because beautiful objects of art as well as handsome and symmetrical human beings met the eye at every turn, and the impressions from these were stamped on the unborn infants, and besides the latter inherited their beauty from many generations of comely ancestors.

A woman should also strive to provide for the physical well-being of her unborn infant by observing carefully the laws of health in her own case. She should be careful about her diet, eating only the most wholesome and nourishing food she can obtain. She should have a plenty of fresh air and exercise, and she should take, at least, moderate exercise. Inertia during pregnancy (unless necessitated by physical disabilities), is very bad for both the woman and child. It is mistaken kindness for the woman's friends to wait on her too much and encourage her to be indolent. It is better for her to exert herself moderately to the very last stages. She should walk

FREE! FREE!

"HOGOLOGY"

Latest Revised Edition.

There is nothing so cheap as something valuable, that is yours for the asking, and that will make and save you hundreds of dollars in time. YOU WILL MAKE NO MISTAKE in getting a copy of "Hogology" at once and following the advice given therein. It will be sent FREE if you mention Southern Planter when asking for it.

\$1,000 Reward

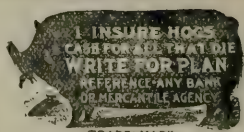
if this is not the best hog book out. It was the first book of the kind ever issued for gratuitous distribution, the first edition having issued more than 20 years ago, and it is the only book of the kind devoted exclusively to the hog, and written by a veterinary and swine specialist. The latest edition is just from the printer, and is down to date, practical and profitable hog-raising as found in an experience of more than 30 years.

I PAY FOR ALL HOGS THAT DIE

when my Remedy is fed as a preventive. Full particulars regarding this insurance proposition in "Hogology." It is the oldest hog remedy on the market, as well as the most successful, and is used by thousands of the leading breeders and feeders throughout the hog-raising world.

Twenty-five pound can, \$12.50; 12½ lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

JOS. HAAS, V. S., Indianapolis, Ind.



POLAND-CHINAS.



I have a limited number of Pigs by my fine Boars, Gray's Big Chief, 57077, and Victor G, 57075, and can furnish pairs not skin or related to those previously purchased. Young Boars and Sows of all ages. Send to headquarters and get the best from the oldest and largest herd of Poland-Chinas in this State at one-half Western prices. Address

GRAY'S BIG CHIEF, 57077.

J. B. GRAY, Fredericksburg, Va.

50 POLAND-CHINA AND TAMWORTH

pigs, 3 and 4 months old, eligible to registration \$6.50 will buy the best of them. The first orders will get the pick of the lot.

A few nice boars ready for service, also for sale.

J. C. GRAVES, Barboursville, Orange Co., Va.



POLAND CHINAS

I have now for sale a choice lot of pigs, boars ready for service, and bred sows. Every hog or pig in this offering is either registered or eligible to registry and most of them are closely related to such hogs or ideal Sushlins. Great Chief Tecumseh, Royal Racket and Anderson's Model. All stock guaranteed as represented or may be returned at my expense. Also a few Short Horn Calves. Farmers prices.

J. F. DUBRETT, Birdwood, 4th marle Co., Va

Belgian Hares, Homer Pigeons, —AND— Poland China & Berkshire Hogs.

REGISTERED STOCK AND FROM THE BEST STRAINS. SATISFACTION GUARANTEED OR MONEY REFUNDED.

C. M. REAVES, Mullins, S. C.

When corresponding with our advertisers always mention the Southern Planter.

daily in the fresh air and sunshine, and she should carry on her ordinary pursuits, at least partially, unless they involve heavy lifting or long standing up. Her condition (unless there are some unusual complications) need not interfere with the usual run of little feminine pursuits, such as hand sewing, embroidery and many other quiet, sedentary pursuits; only she ought not to be too quiet and sedentary, as it is very important for her to stir about as much as she can, without injury to herself or child. A proper development of the muscular system is of incalculable service to a woman on the eve of maternity, greatly lessening the pain and danger she is called on to undergo. I do not believe it was intended by a beneficent Creator that a woman should suffer so severely whilst performing so important a service. Her sufferings at that time are largely due to enervation from an artificial mode of life, and consequent non-development or imperfect development of her muscular system. Women who lead a simple, natural life, doing enough manual labor to develop their muscles, do not undergo long, protracted or very painful labor. It is a well known fact that women who do all their own house work, besides gardening and attending to the cows, pass through the ordeal of child birth far more easily and quickly than wealthy and luxurious women, who lead a life of ease and have all their work done by a corps of servants. In the crucial hour of woman's physical existence the one of frugal, simple habits and well developed muscles enjoys a comparative immunity from great suffering, which affords her a recompense for what some persons might consider the hardships of her lot.

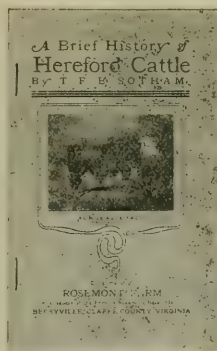
ERRATA.

Please correct the following errors in my article on Annapolis, in your October number: "An old vessel, the *Jante*, is kept there as a prison ship." It should be "*Santee*." "It is only by a long and gradual process of *vention* that the navy has reached," etc. It should be "*evolution*."

MARY WASHINGTON.

They had not met in some years, and he told her that she had grown as plump as a partridge; at which she cried, "Oh, now you are making game of me!"—October Lippincott's.

Passer-by—I thought you were blind. Mendican!—Well, boss, times is so hard and competition is so great that even a blind man has to keep his eyes open now-a-days if he wants to do any business at all.—Chicago Journal.



TWO SPLENDID HEREFORD BULLS

FOR SALE AT BARGAIN PRICES.

One is a yearling by Imp. Protector (cost \$8,000) who weighs 2,800 lbs., and is out of one of our choicest cows. The other is a ten months old calf by Champion Perfection, son of Champion Dale. Don't let these two great bargains slip by you. Write for further information about them.



"A Brief History of Hereford Cattle" will be mailed free to all applicants. Be sure to get a copy.

ROSEMONT FARM,
Berryville, - Clarke - County - Va.

Bacon Hall Farm.

Hereford Cattle :- Berkshire Hogs

REGISTERED—ALL AGES.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

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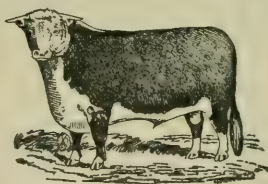
Registered • Herefords,

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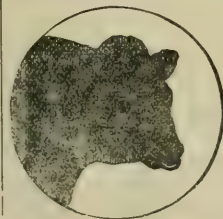
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Young stock for sale. Inquiries cheerfully answered.

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—The Delaware Herd of— ROYAL ANGUS CATTLE

is not surpassed either in breeding or individual animals, by any herd in the East. At the head of our herd is **PRINCE BARBARA, 88604**, the son of the great \$3,100 Prince Ito. Females of equally choice breeding. Write your wants. Remember, we take personal care of our cattle; keep no high priced help; incur no expense of exhibiting; all of which enables us to offer stock at equitable prices. Send for pamphlet.

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Great saving in Freight.
This is our 51st year.

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GOOD BYE! SMOKE HOUSE.

The smoke house always was a source of worryment, vexation and expense, anyhow. When it catches fire



let it go up in smoke. There's a better way to smoke meats. That is by using Krauser's Liquid Extract of Smoke. It's been gaining in all parts of the country for several years past, and there is no longer any doubt that it is driving the smoke house out of business.

Krauser's Liquid Extract of Smoke is made from selected hickory wood. It is applied to meat with a brush or sponge. It contains the same ingredients that preserve meat that is smoked in the old way. It gives meat a delicious, sweet flavor and gives perfect protection against insects and mould. It is cheaper and cleaner than the old way. Information concerning its use, cost, etc., can be had by writing to the makers, E. Krauser & Bro., Milton, Pa.

The villagers were all gathered round the little store, talking about Sam Jones' lost colt. It was a two-year-old, and had strayed out of the pasture lot the day before. Sam worried about it; the neighbors had all been out looking for it without success, and no one seemed to know where to look for it.

Jim stood there, looking on and listening. Jim was a tall, lank young fellow, regarded as half-witted by some persons and as foolish by others.

"I think I could find your horse," he said to Sam Jones.

"You? Why, Jim, how do you think you could find him when we have had the best men in town out looking for him?"

"Well," said Jim, "I could try, couldn't I?"

"Yes," answered the owner, "you can try, and if you find him I'll give you a dollar."

"All right," said Jim, and walked away on his search. To the surprise of all, he returned in less than half an hour leading the missing horse by a rope tied around his neck.

"Well, well," said Jones, as he took the horse and paid Jim the dollar. "How in the world did you find him so quick?"

Jim answered in his long-drawn-out words: "Why, I thought: 'Now, if I was a horse, where would I go?' And so I went there, and he had."

There is a health resort in the west of Scotland near which is a gunpowder factory. A visitor one day asked a native if the place was really so healthy as was generally represented.

"Healthy!" exclaimed the native; "man, if it werena for the powder factory, we wudna need to keep a cemetery ava."

JNO. S. FUNK, Glen Farm.**Importer and Breeder of POLLED DURHAM CATTLE.**

Reds and roans. Can furnish bull calves or cows and heifers in car lots. **SOUTHDOWN SHEEP.** **POLAND CHINA HOGS.** R. F. D. 7, Harrisonburg, Va.

Deep Creek, Va., October 8, 1904.

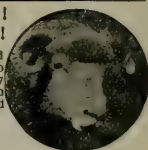
JOHN S. FUNK, Esq.:
Dear Sir,—I received the calf on the 6th, safe and sound. Every one that has seen him says he is the finest and largest for his age that they ever saw. I would like for you to have him registered for me when he is old enough. I am highly pleased with pig and calf both. Yours truly,

W. T. CULPEPPER.

EDGEWOOD STOCK FARM DORSETS! DORSETS!

We have sold all the Dorsets offered. We wish to thank our friends and patrons for their kind words. Our one object is to please, and we strive to make our flock better every year. Our Ewes this summer were selected by one of us from the best English flocks, and they are bred to the best rams in England. We will book your orders now for fall Lambs from these and other Ewes.

J. D. and H. B. ARBUCKLE, Maxwelton, Greenbrier, Co., W. Va.

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Insures Against Fire and Lightning.

All descriptions of property in country and town, private or public, insured at fair rates, on accommodating terms.

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Capital,	-	-	-	-	-	\$200,000.00.
Surplus,	-	-	-	-	-	\$500,000.00.
Undivided Profits,	-	-	-	-	-	\$171,000.00.

Depository of the United States, State of Virginia, City of Richmond.

Being the largest depository for banks between Baltimore and New Orleans, we offer superior facilities for direct and quick collections. Accounts solicited.

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Assistant Cashiers: J. R. PERDUE, THOS. B. MCADAMS, GEO. H. KEESEE.

Three Per Cent. Interest Allowed in Savings Department.

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BILTMORE JERSEYS.—The American home of the Great Golden Lads—a family that has produced great milkers, with the best udders and show-yard records that the world has ever seen. Our bulls are out of dams owned and tested in the Biltmore Herds, and buyers can get as near to a certainty as is possible. Large, 52 week milk and butter records a specialty. Over four hundred in five different herds to select from.

BILTMORE BERKSHIRES.—No herd in the world has made as good a record. All the great Champions of England and America have either been in service or bred here. Our yearly offerings at unreserved auction are eagerly taken at nearly double the price of all previous records. The most successful herds all over the States are using a Biltmore foundation.

BILTMORE POULTRY.—Only the UTILITY breeds. Barred and White Plymouth Rocks, White and Golden Wyandottes, Brown and White Leghorns, Bronze Turkeys, Pekin Ducks. Over 50 yards of prize winners. Extra size, fine type, from fixed strains, and more prizes won at the leading shows than all competitors together.

Also a small kennel of extra choice, Rough coated imported Scotch Collies.

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**offers 600 head Cockerels and Pullets,
All First Class and Pure Bred. :- :-**

S. C. BROWN LEGHORN,

BARRED PLYMOUTH ROCKS,

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WHITE PLYMOUTH ROCKS,

WHITE WYANDOTTES,

BLACK MINORCA,

SILVER LACED WYANDOTTES,

PEKIN DUCKS.

WILL SELL DURING MONTH OF NOVEMBER AT \$1.00.

Also 75 Bronze Turkeys at \$3.00, for Gobblers; and \$2.00 for hens. Don't delay, write to-day. Reference furnished.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

Canyon Hotel,
Yellowstone Park, October, 1904.

Editor Southern Planter:

Thinking that your readers might be interested in hearing some items about the Nation's wonderland, Yellowstone Park, I avail myself of a little interval of leisure at the last stopping point of the trip, to write you some account of its marvels, which, however, almost baffle description. My readers are doubtless aware of the fact that Yellowstone Park is the northwestern corner of Wyoming, set apart as a National pleasure ground by Congress in 1872, because of its great beauties, its sublime features and unique characteristics. It embraces an area of 3,500 square miles, has an average altitude of 8,000 feet above the sea level, and is both surrounded and traversed by ranges of the Rocky Mountains. No railroad, trolley line or any such route may enter or cross this Park, set aside for the benefit and enjoyment of the American people, but the Government has made a fine wagon road extending from the main entrance and back to it again, over a route of about 135 miles, connecting five important centres, at each of which there is a good hotel, accommodating from 150 to 250 guests.

After a visit to St. Louis, where we saw a stupendous exhibition of what can be achieved by art and labor, we turned our faces westward to view the equally stupendous wonders of nature as displayed in Yellowstone Park. We had three days and two nights of rather tiresome travel, crossing Nebraska on our way. It is a barren plain as seen from the train, very much like the veldt of South Africa. Still the landscape is pretty, as the formation of the land is picturesque, and the skies deep blue and very clear. There is no sign of vegetation and little water, only cattle everywhere, and the miserable huts of the ranchmen. Occasionally we saw cow boys racing their broncos.

Livingston, the starting point for the Park, was the first place we came to that looked like the habitation of human beings. It is a pretty little town at the foot of the mountains, with a fine, new depot and Carnegie library, and every dwelling in it has a yard and flowers. We stopped here and took lunch. We reached the entrance to the Park about night fall, and drove in five miles to the first hotel, the one at the Terraces. These formations are due to the dripping of water over sharp ledges of rock regularly stratified, cropping out along the hillside. Their color is due to four minerals held in solution by hot water—viz., lime, sulphur, magnesia and arsenic. The most noted of these terraces are called the Angel, the Pulpit, Minerva and Jupiter. The last is the largest, covering several acres, but the first is the most beautiful, being decked in every color of the rainbow.

We left the hotel of the Terraces in

FARQUHAR MACHINERY

Send for handsome new Catalogue



Just received highest award, Gold Medal, on Saw Mills, Engines and Threshing Machines, World's Fair, St. Louis. Also Portable and Traction Engines: All kinds. Threshing Machines: All kinds—20 to 40 inches. Portable Saw Mills with friction feed and log turner. Pennsylvania Grain Drills, Disc and Hoe patterns, greatly improved for 1905.

A. B. Farquhar Co., Ltd.
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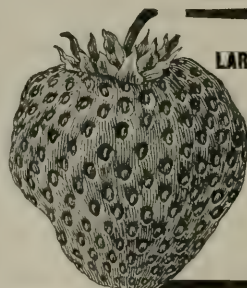
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APPLES, PEACHES, PEARS, CHERRIES, PLUMS, APRICOTS, NECTARINES, GRAPEVINES in large assortments, GOOSEBERRIES, CURRANTS, STRAWBERRIES, HORSE-RADISH, ASPARAGUS, DEWBERRIES, and an extra fine lot Raspberries. Splendid assortment ORNAMENTAL and SHADE TREES, ORNAMENTAL SHRUBS and HEDGE PLANTS.

EGGS from B. P. ROCK and BROWN LEGHORN FOWLS at \$1.00 per 13. Also a few pullets and cockerels of these breeds at \$1.00 each for immediate delivery. Write for Catalogue to

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Best Full Cream Cheese, per pound.....	12½c.	Pillsbury Patent Flour, per bbl.....	7.00
Best Prunes, per pound.....	5c.	Gold Medal Patent Flour, per bbl.....	7.00
Best Water-Ground Meal, peck, 18c.; bushel.....	70c.	Excelsior Flour, per bbl.....	5.50
Pure Apple Vinegar, per gallon.....	25c.	New Virginia Buckwheat, pound, 5c.; 6 lbs. for.....	25c.
Good Cider Vinegar, per gallon.....	20c.	Best Elgin Butter, per pound.....	25c.
Large Cans Tomatoes, per can.....	7c.	Good Green Coffee, Rio, per lb.....	10c., 12c., 15c.
Best Can Corn, per can.....	8c.	Good Laguayra Coffee, per lb.....	12½c. and 15c.
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Quaker Oats, per package.....	10c.	Good Corn, per bushel.....	68c.
Avena Oats, per package.....	9c.	Ship Stuff, per 100 pounds.....	\$1.25
American Oats, per package.....	8c.	Best Bran, per 100 pounds.....	1.15
Fine Teas, Green, Black and Mixed, per lb.....	35c., 40c., 50c.	Best Timothy Hay, per 100 pounds.....	85c.
Pure Lard, per pound.....	10c.	Good Luck Baking Powder, Small Cans.....	4c.
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Choice Salt Pork, per pound.....	8c.	Lenox Soap, 7 Bars for.....	25c.
Best Salt Pork, per pound.....	11c.	Polo Soap, 11 Bars for.....	25c.
Country Bacon, per pound.....	12c.	Moon Soap, 11 Bars for.....	25c.
Bologna Sausage, per pound.....	7c.	Octagon Soap, per Bar.....	4c.
California Evaporated Peaches, per pound.....	10c.	Circus Soap, 7 Bars for.....	25c.
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American Beauty Cigarettes, 20 to package.....	4c.	Old Crown Rye Whiskey, per gallon.....	3.00
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Carolina Bright Cigarettes, 10 to package.....	4c.	Old Excelsior Rye Whiskey, per gallon.....	2.00
Plum, Peach, Grape and Reynolds' S. C. Tobacco, 3 plugs for.....	25c.	Old Capitol Rye Whiskey, per gallon.....	1.50
New N. C. Cut Herrings, dozen, 10c.; or, 3 dozen for.....	25c.	Virginia Apple Brandy, per gallon.....	2.50
New N. C. Cut Herrings, one-half bbl, \$2; per bbl.....	\$3.50	Duffy's Malt Whiskey, per bottle.....	80c.
New N. C. Roe Herrings, dozen, 18c.; half bbl.....	2.50	Good Gin, per gallon.....	\$2.00
New N. C. Roe Herrings, per bbl.....	4.00	Best Gin, per gallon.....	2.50
New Gross Herrings, per bbl.....	2.50	Mountain Whiskey, 4 years old, per gallon.....	3.00
New Fat Mackerel, Medium Size.....	5c.	Wilson Whiskey, per bottle.....	90c.
New Fat Mackerel, Large Size, 3 for.....	25c.	Paul Jones Whiskey, per bottle.....	90c.
New Fat Mackerel, 20 Medium Size in Kit.....	\$1.00	Fulcher Whiskey, per bottle.....	\$1.00
Genuine New Orleans Molasses, per gallon.....	60c.	Buchu Gin, good for kidneys, per quart.....	90c.

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STORES

1724 East Main Street, Phone 507,
501 North 25th Street, Phone 1865,
RICHMOND, VA.

a carriage with an East Indian prince, his courier and his slave. The prince was a large, dark man, wearing a turban, loose trousers and slippers. He spoke only a few words of English, but his courier had fluent command of the language. The slave was the most absurd figure I ever saw, dressed all in patches, and he wore his master's monogram in silver on a huge white turban. We drove forty miles the first day, through Silver Pass, Golden Gate, past the Hoodoos and Beaver Lake to Norres Basin. Here we stopped for luncheon and then drove on past Emerald Pool and Obsidian Cliff. Our next stopping place was Fountain Hotel. This is the region of bubbling springs, and also one of its remarkable features is the Mammoth Paint Pot, a cauldron fifty feet in diameter, in the basin of which there is a fluid substance in a state of constant ebullition. It is composed of oil, lime, clay and water, and is so much like the calcimine of commerce that it can be used for coloring walls. Our next drive brought us to the upper Geyser basin, the region which the Indians call "Steamboat Springs." Here we found cones which send forth eruptions of hot water in tall, straight columns from 50 feet in height to 250. The most noted of these geysers is "Old Faithful," which erupts once an hour. "The Giant" and the "Gaintess" are also remarkable. One of the great attractions of this region is "Larry," a jovial Irishman, proprietor of the hotel here, a very fine one, recently built, and entirely of natural wood. Ten bears came into the back yard and fed there. Indeed, I understand that bears feed at all the hotels in Yellowstone Park. In driving through the forests, we were struck with the abundance and tameness of the animals. They are not allowed to be shot, though there is no interdiction on fishing. The evening we spent at "Larry's" hotel, we sat around an open fire, popping corn, enlivened by the merry jests of our host, who possesses the traditional fun and humor of the race from which he springs.

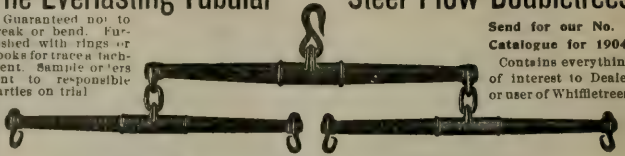
Yesterday we drove around the lake, and to-day we have explored the falls and the Grand Canyon, which, I believe, form the climax of all the great and wonderful sights we have seen in the park. The falls are formed by the plunge of a whole river over the edge of a precipice 365 feet, and the Grand Canyon is a great rent in the earth, six miles long, half a mile wide, and 1,500 feet deep.

To-morrow we return to the railway and the outside world, leaving behind us this land of enchantment of whose wonders and beauties I have only leisure now to give you a brief outline.

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The Everlasting Tubular

Guaranteed not to break or bend. Furnished with rings or hooks for trusses, trachment. Sample orders sent to responsible parties on trial.



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9 Miles of Pipe.	

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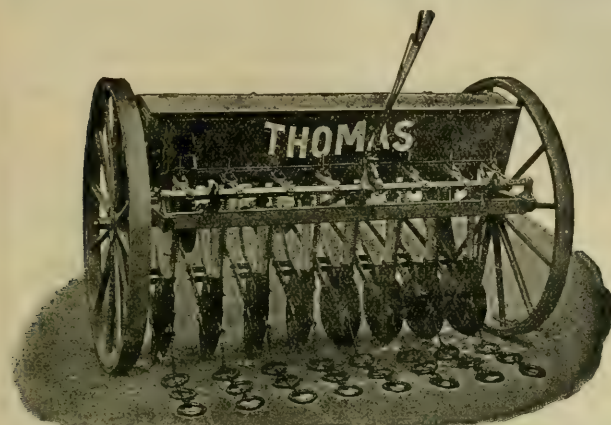
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"THE MASTER WORKMAN,"
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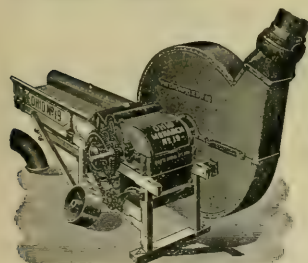
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is even less than barb wire or wood and when erected is practically everlasting. Furnished in various heights and styles.

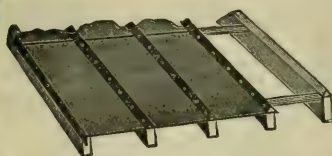
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The Baby-Cream is a fine, quick seller. Put up in large, attractive boxes; perfectly medicated; delicately perfumed; thoroughly antiseptic; rich snowy white. No explaining to do. Circular tells all about it. Cures rough skin, chapped face and hands, chafing, eruptions and irritations; cuts, burns, scalds and bruises; p. icky heat, fever sores and other skin troubles, gives instant relief. Mothers use it on themselves. The girls do, too. It keeps their skin like velvet.

Write to-day. The Baby-Cream sells on sight. Every mother wants it. Every one wants the Steel Safety Box. You want it, if you need a safe, private place for your valuables and letters. BRAUER CHEMICAL CO., 427 Postal Building, N. Y.

A distinctive feature of the Review of Reviews for November is the series of sketches of men of the hour, including, besides an elaborate character study of the late Senator Hoar, by Talcott Williams, briefer articles on Mr. John Morley and Mr. James Bryce, who are now visiting the United States; on Commander Booth Tucker, of the Salvation Army, whose work in America is just closing; on the late F. A. Bartholdi, the designer of the statue of "Liberty," in New York harbor; and on the late Lafcadio Hearn, the interpreter of Japan to the Western world. Mr. Herman Rosenthal writes on "Prince Mirsky, Russia's new Minister of the Interior," and Mr. W. T. Stead contributes an interesting character sketch of Lord Grey, the new Governor-General of Canada. Mr. Stead's article is followed by two other Canadian papers of exceptional interest—"The Trend of Political Affairs in Canada," apropos of the approaching elections, by Miss Agnes C. Laut, and "Western Canada in 1904," by Theodore M. Knappen. "Iowa's Campaign for Better Corn," by Prof. P. G. Holden, is a suggestive account of the work performed last spring by the so-called "Corn Gospel" trains. Mr. Edward A. Moseley, secretary of the Interstate Commerce Commission, contributes an authoritative article on American railroad accidents; their causes, and the means of securing greater safety in travel. Miss Florence E. Winslow reviews the work of the Episcopal Triennial Convention, which has just completed its sessions at Boston. "What the People Read in Hungary," is the somewhat out-of-the-way subject of a paper by John Skotthy. The closing phases of the Presidential campaign, the developments in the Russo-Japanese war, and other topics of the hour are discussed in the editorial department, "The Progress of the World."

"Does your husband take as much interest in horse racing as he used to?"

"Yes," answered young Mrs. Torkins, "Charley can always tell the day before a race which horse ought to win, and the day after why he didn't."

SAFE and PRIVATE! ABSOLUTELY FREE!
This Magnificent Doubly Reinforced Handsomely Finished, Large and Roomy **STEEL SAFETY BOX** The Kind Bankers Use Black Enameled, Trimmed in Maroon and Gold, Strong Lock, Intricate Key. An actual necessity to every man, woman, boy and girl. Appeals with great force to Men for Deeds, Women for Jewels, Boys for Letters, Girls for Trinkets. CONTENTS AS SAFE AND PRIVATE AS A BURIED TREASURE, HIDDEN FROM THE EYES OF ALL BUT THE RIGHTFUL OWNER.

Spring Flexible Disc Harrow

Only Harrow in the world with independent adjustable spring pressure upon inner ends of disc gangs. Any amount of pressure thrown on these inner ends by foot. Ball-bearing. Works uneven ground. All sizes, at proportionate prices.



Seasonable Implements of the latest style, always up-to-date. Possibly you are now or will soon need a Corn Sheller, Feed Cutter, Disc Plow. You can get our Catalogue for the asking.

OUR PRICES MUST BE RIGHT.

NORFOLK FARM SUPPLY CO.
41-51 Union Street, NORFOLK, VA.

Do You Ship Apples?

If so, let us call your attention to the California and Oregon apple boxes, the coming packages for nice apples, particularly for foreign shipments. SOUTHSIDE M'F'G CO., PETERSBURG, VA.

Not long ago the genial superintendent of a public school was asked by one of his youthful friends to listen to the latter's rehearsal of a lesson, in which there was a reference to Atlas. "Do you know who Atlas was?" asked the superintendent.

"Yes, sir. He was a giant who supported the world."

"Ah! Supported the world, did he?" went on the superintendent. "Well,

tell me who supported Atlas?"

The little fellow looked as though he had not given the subject any particular attention, but showed immediate willingness to think it over. The superintendent stood looking on, trying hard to keep back a smile; but the youngster finally brightened up and answered:

"Well, I think he must have married a rich wife."

Our Clubbing List.

The following list of papers and periodicals are the most popular ones in this section. We can SAVE YOU MONEY on whatever journal you wish:

DAILIES.		
	Price Alone.	With Planter.
Times-Dispatch, Richmond, Va.....	\$5 00	\$5 00
The Post, Washington, D. C.....	4 00	6 00
The Sun, Baltimore, Md.....	3 00	3 40
Chicago Live Stock World.....	4 00	3 50
News-Leader, Richmead, Va.....	3 00	3 00

TRI-WEEKLY.		
The World (thrice-a-week), N. Y....	1 00	1 25

WEEKLIES.		
Harper's Weekly	4 00	4 00
Montgomery Advertiser	1 00	1 00
Nashville American	50	75
Breeder's Gazette	2 00	1 75
Heard's Dairyman	1 00	1 35
Country Gentleman	1 50	1 75
Religious Herald, Richmond, Va.....	2 00	2 25
Times-Dispatch, Richmond, Va.....	1 00	1 25
Central Presbyterian, " ".....	2 00	2 25
Horseman	3 00	3 00

MONTHLIES.		
Wool Markets and Sheep	50	75
Dairy and Creamery	50	75
Commercial Poultry	50	75
All three	1 50	1 15
North American Review	5 00	5 00
The Century Magazine	4 00	4 25
St. Nicholas Magazine	3 00	3 25
Lippincott's Magazine	2 50	2 50
Harper's Magazine	4 00	4 00
Harper's Bazar	1 00	1 40
Scribner's Magazine	3 00	3 25
Frank Leslie's Magazine	1 00	1 35
Cosmopolitan Magazine	1 00	1 25
Everybody's Magazine	1 00	1 35
Munsey Magazine	1 00	1 25
Strand Magazine	1 25	1 65
Madame	1 00	1 00
Argosy Magazine	1 00	1 35
Review of Reviews	2 50	2 75
Poultry Success	1 00	75
Rural Mechanics	1 00	55
Blooded Stock	50	60
Successful Farming	1 00	60
Southern Fruit Grower	50	35

Where you desire to subscribe to two or more of the publications named, you can arrive at the net subscription price by deducting 50 cents from "our price with the PLANTER." If you desire to subscribe to any other publications not listed here, write us and we will cheerfully quote clubbing or net subscription rates.

Subscribers whose time does not expire until later can take advantage of our club rates, and have their subscription advanced one year from date of expiration of their subscription to either the PLANTER or any of the other publications mentioned.

Don't hesitate to write us for any information desired; we will cheerfully answer any correspondence.

We furnish NO SAMPLE COPIES of other periodicals.

Seed House of the South.

RED CLOVER,
MAMMOTH CLOVER,
CRISPIN CLOVER,
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LUCERNE CLOVER,
ALSYKE CLOVER,
BOKHARA CLOVER,
JAPAN CLOVER,
BUR CLOVER,



TIMOTHY,
ORCHARD GRASS,
RED TOP or HERDS GRASS,
KENTUCKY BLUE GRASS,
RANDALL GRASS,
TALL MEADOW OAT GRASS,
JOHNSON GRASS,
GERMAN MILLET,
BUCKWHEAT,
OATS and
CANE SEED.

"Whatsoever One Soweth, That Shall He Reap."

We sell strictly reliable FIELD AND GARDEN SEEDS of every variety at Lowest Market rates, included in which are

RAGLAND'S PEDIGREE TOBACCO SEEDS.

WE ALSO SELL

Our Own Brands of Fertilizers

For Tobacco, Corn, Wheat, Potatoes, &c.

Pure Raw-Bone Meal, Nova Scotia and Virginia Plaster and Fertilizing Materials generally.

Parties wishing to purchase will find it to their interest to price our goods. Samples sent by mail when desired.

Wm. A. Miller & Son, 1016 Main Street, LYNCHBURG, VA.

Richmond, Fredericksburg & Potomac R. R.

AND

Washington Southern Railway



The Double-Track Link Connecting the

Atlantic Coast Line Railroad
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Between ALL POINTS
Via RICHMOND, VIRGINIA

THE GATEWAY BETWEEN THE NORTH AND THE SOUTH
FAST MAIL, PASSENGER, EXPRESS AND FREIGHT ROUTE
— OVER FIFTY MILES OF THE SECOND TRACK ALREADY IN SERVICE —

DAN PATCH AT WORLD'S FAIR.

Our readers who intend to visit the great World's Fair during November will be pleased to know that the World's Champion Harness Horse Dan Patch, 1:56 will give two of his marvellous speed exhibitions at the Delmar Race Track, which is directly opposite to the "Administration Entrance" of the World's Fair Ground.

Dan's exhibitions will be on November 5th and November 10th, commencing at 2 P. M. This is the only chance you will ever have in your life to see the greatest fair in the world and the greatest horse in the world in one day.

It is nothing unusual for Dan Patch to draw 50,000 people to one of his wonderful performances, and many of them travel for hundreds of miles. The American people are great admirers of genuine greatness, and Dan Patch appeals to them, not only on account of his lovable disposition. He has a special liking for ladies and children, and the horse never lived who had so many ardent admirers as the World famous Dan.

Mr. M. W. Savage, of Minneapolis, Minn., the owner of Dan, writes us that these two dates are the only dates on which Dan Patch will appear at St. Louis.

MERIT COUNTS EVERY TIME.

Farquhar Machinery Receives Highest Award, Gold Medal, at the St. Louis Exposition.

The A. B. Farquhar Company, Ltd., of York, Pa., whose exhibit comprising engines, boilers, threshers, saw mills and agricultural machinery, is one of the features in the Palace of Agriculture at the St. Louis Exposition, has just received highest award and gold medal on saw mills, engine and threshing machines.

The receiving of this high honor is not to be wondered at, for the exhibit is truly a revelation in mechanical improvement. It also shows that merit is appreciated, and that it is bound to win out.

The Farquhar Company has always kept well in the lead in new inventions. They have time and again received awards for improvements, and the name Farquhar on any farm implement is to-day a guarantee that the machine in question will give the greatest economy and profits in operation.

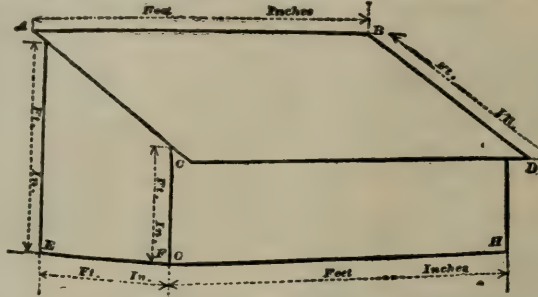
To those who have not seen this exhibit or will not get to the fair, the next best thing is to send for a catalogue describing and illustrating their machinery just as it is. The company will send a copy of their catalogue free to any address. It is worth having.

"To what account shall we charge these new battleships?" asked the Russian Treasury official.

"The sinking fund," answered his superior, wearily.

ROOFING OF ALL KINDS.

Painted Corrugated Roofing, Painted V. Crimp Roofing, Roofing Tin in boxes or rolls, Tarred Roofing Felt, Perfected Granite Roofing.



Send us the **DIMENSIONS OF YOUR ROOF**, stating **KIND OF ROOFING** wanted, and we will quote you on sufficient quantity to cover it.

You can **ADD YEARS** to the life of your roof by painting it with our

Magnet Red Roofing Paint.

1 gallon will cover 2½ squares. Can furnish in any size package, 1 gallon up. Only the very **HIGHEST GRADE** material enters into the manufacture of this paint. Write for prices.

We also carry a complete stock of Conductor Pipe and Gutter, Solders and Metals; Galvanized and Black Sheet Iron, etc.

Southern Railway Supply Company,

1323 East Main Street,

RICHMOND, VIRGINIA

Headquarters for Nursery Stock.

**WHOLESALE
AND
RETAIL.**

We make a specialty of handling dealers' orders

ALL STOCK TRUE TO NAME.

Apples,	Nectarines,	Pecans,	Ornamental and
Pears,	Cherry,	Chestnuts,	Shade Trees,
Peach,	Quinces,	Walnuts,	Evergreens,
Plum,	Almonds,	Small Fruits,	Roses, Etc,
Apricots,			

CALIFORNIA PRIVET, for Hedging.

WRITE FOR CATALOGUE.

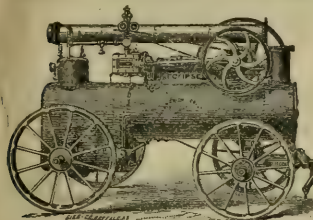
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FRANKLIN DAVIS NURSERY CO., Baltimore, MP.

Latest Improved FARM IMPLEMENTS.



TIGER DISC HARROW.
Plain and Lever Spring Tooth Harrows. All Sizes



Frick and Aultman and Taylor Engines.
Saw Mills and Threshers.



Special prices given on Studebaker and
Brown Wagons, Buggies and Carts.



ELI BALING PRESSES. 58 styles and sizes. For Horse or steam
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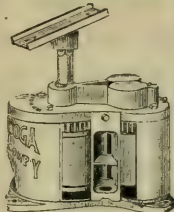


ROSS....

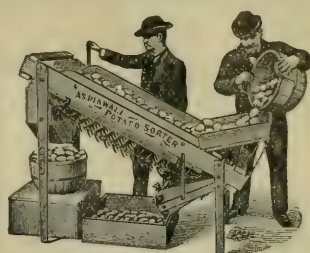
Fodder Cutters, Fodder
Shredders, Cutters for all
purposes, Corn Shellers,
Grinding Mills, Horse
Powers and Wood Saw.



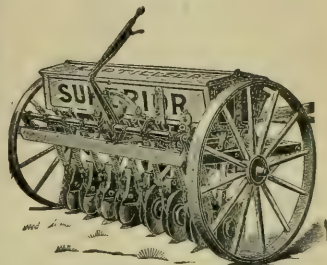
STEEL AND IRON ROLLERS
ALL SIZES AND KINDS



Chattanooga
Cane Mills
and
Evaporators.



Aspinwall Planters, Potato Sorters
and Cutters.



SUPERIOR GRAIN DRILLS.
Plain and Fertilizer Hoe and Disc Drills—all sizes

"SCIENTIFIC FEED MILLS, All Sizes."



The SCIENTIFIC Grinding Mills.

Are unequalled for grinding ear corn, shucks on or off, Corn, Oats
Wheat and all other grains, single or mixed.

POWER MILLS in five sizes, 2 to 30 horse-power.

Scientific Sweep Mills in five sizes.

Geared—plain and combined, with horse-power.

Milwaukee Corn Husker and Fodder Shredder,

Has steel gears and steel clutches and rolls easily. Adjusted to all conditions of corn.

With Blower or Carrier. Manufactured in 5 sizes: Large machines
for threshermen and small machines for farmers' own use.

Read list of only a few of the many using the MILWAUKEE Husker

VIRGINIA:

R. L. BRUCE, Medlock.

J. C. SEGAR, Lewiston.

J. A. GRAHAM, Hanover.

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A. T. BROADBENT, Old Church.

H. S. SAUNDERS, Shirley.

MRS. ALICE BRANSFORD, Shirley.

C. C. BRANCH, Toano.

M. I. NORVELL, Island.

S. D. IVEY, Petersburg.

J. A. MADDOX, Triangle.

W. H. WALTON, Rice Depot.

T. S. WILSON, News Ferry.

GEO. R. LAND, Boydton.

NORTH CAROLINA:

C. C. MOORE, Charlotte.

R. F. BROADBENT, New Bern.

COL. B. CAMERON, Stagville.

The above parties will cheerfully give you testimonials as to the merits
of the Milwaukee. We are ready at all times to go in the field with any
other husker made, and will guarantee the Milwaukee to be the best
made; and will also guarantee it to do more work than any other made,
and shell less corn, and cost less for repairs and last longer. Write the
parties that are using them; also write for special circulars and testi-
monials we have, which will be sent with pleasure.

HENING & NUCKOLS, Successors to **CHAS. E. HUNTER,** 1436-38 E. Main St., RICHMOND, VA.

THE CANADIAN WHEAT CROP.

A great deal of attention has been paid in the United States this year to the Western Canadian wheat crop. It is generally realized that that great wheat country is now arriving at such a volume of production that hereafter the markets of the world will have to pay close attention to its annual contribution to the world's supply of wheat.

Owing to the scare created by the discovery of rust in a part of Manitoba in August an erroneous impression has got abroad as to the size of this year's crop in Western Canada. At the time of the scare a well known wheat estimator put the whole Western Canadian crop as low as 42,000,000 bushels, and one guess even had it as low as 35,000,000 bushels.

Now threshing is so far advanced that it can be asserted without doubt that the Western Canada wheat crop will be about 60,000,000 bushels, or an average of 17 bushels to the acre—as good an average yield and a larger total by 7,000,000 bushels than last year.

That it may not be inferred that this is a biased estimate, we will say that our estimate at the time of the scare was for less than 15 bushels to the acre.

The indications now are that Western Canada will have 4,500,000 acres in wheat next year, and with favorable conditions will for the first time produce a crop of about 100,000,000 bushels.

WESTERN CANADA INFORMATION BUREAU,
THEO. M. KNAPPEN, Secretary.

After the jury in a Texas case had listened to the charge of the court and gone to its room to deliberate upon the verdict, one of the twelve men went right to the point by saying, "That thar' Pike Mulrow order be convicted on gen'ral principles. He's bad as they make 'em."

As the hum of approval went around a weakened little juror said: "I heerd that Pike guy it out that he'd go gunnin' fur us if we sent him up, jes' soon's he got out, an' fur the Jedge, too."

"We must perrect the Jedge," they agreed, and the evrdict was "not guilty."

An Irishman was charged with a petty offence

"Have you any one in court who will vouch for your good character?" queried the judge.

"Yes, sorr; there is the chief constable, yonder," answered Pat.

The chief constable was amazed. "Why, your Honor, I don't even know the man," protested he.

"Now, sorr," broke in Pat, "I have lived in the borough for nearly twenty years, and if the chief constable doesn't know me yet, isn't that a character for ye?"

The best at one-half price

It takes five of the ordinary "quarts" to make a gallon, but a HAYNER QUART is a full quart, an honest quart of 32 ounces, four to the gallon. Now, you pay your dealer at least \$1.25 a bottle for whiskey that cannot possibly be any better than HAYNER, if as good, or \$6.25 a gallon. If you buy HAYNER WHISKEY you save at least \$3.05 on every gallon. We sell two gallons for about the same as you pay for one gallon of probably poorer whiskey. Just think that over and remember that HAYNER WHISKEY goes direct from our distillery to you, carries a UNITED STATES REGISTERED DISTILLER'S GUARANTEE OF PURITY and AGE and saves you the dealers' enormous profits. That's why it's so good and so cheap. That's why we have over a quarter of a million satisfied customers. That's why YOU should try it. Your money back if you're not satisfied.

Direct from our distillery to YOU
Saves Dealers' Profits! Prevents Adulteration!

HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

4 FULL QUARTS \$3²⁰ EXPRESS PREPAID

We will send you FOUR FULL QUART BOTTLES of HAYNER'S SEVEN-YEAR-OLD RYE for \$3.20, and we will pay the express charges. Try it and if you don't find it all right and as good as you ever used or can buy from anybody else at any price, then send it back at our expense and your \$3.20 will be returned to you by next mail. Just think that offer over. How could it be fairer? If you are not perfectly satisfied, you are not out a cent. Better let us send you a trial order. If you don't want four quarts yourself, get a friend to join you. We ship in a plain sealed case, no marks to show what's inside.

Orders for Ariz., Cal., Col., Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash. or Wyo. must be on the basis of 4 Quarts for \$4.00 by Express Prepaid or 20 Quarts for \$16.00 by Freight Prepaid.

Write our nearest office and do it NOW.

THE HAYNER DISTILLING COMPANY

ATLANTA, GA. DAYTON, OHIO ST. LOUIS, MO. ST. PAUL, MINN.
150 DISTILLERY, TROY, O. ESTABLISHED 1866.



THE SEABOARD AIR LINE RAILWAY

OFFERS
PROFITABLE
INVESTMENTS

THE MANUFACTURER,
THE STOCK RAISER,
THE DAIRYMAN,
THE FRUIT GROWER,
THE TRUCKER.

TO → WHERE YOUR LABOR IS NOT IN VAIN.

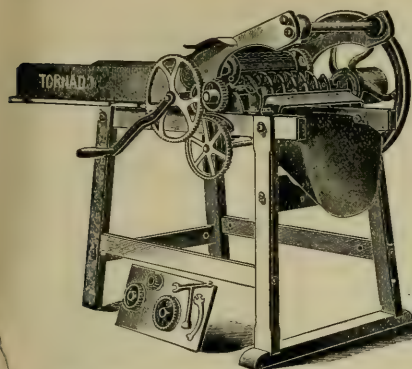
Would a country where work can be carried on the entire year and where large profits can be realized interest you?

The SEABOARD Air Line Railway traverses six Southern States and a region of this character. One two cent stamp will bring handsome illustrated literature descriptive of the section.

J. B. WHITE,
Gen. Industrial Agt., Portsmouth, Va.

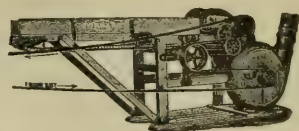
EDW. W. COST,
Traffic Mgr.

CHARLES B. RYAN,
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THE CELEBRATED
TORNADO
LINE OF
**FEED CUTTERS,
CARRIERS,
BLOWERS, Etc.**

SIZES
ranging from
6-INCH
HAND POWER
TO
Large 27-Inch
MOGUL
Power Cutter.



TORNADO CUTTER WITH BLOWER ATTACHED.



TORNADO CUTTER WITH SWIVEL CARRIER ATTACHED.

The most successful HAY, STRAW, FODDER, and ENSILAGE CUTTING AND SHREDDING MACHINE in the world. No extra shredding or splitting attachments needed on the TORNADO. These Cutters, with Carrier or Blower, are prime favorites with the progressive Southern farmer. Call on your local dealer for information and prices, or write to us. We will mail you Catalogue and full information for the asking. Many hundreds of these machines in use in the South.

MANUFACTURED BY

W. R. HARRISON & CO., Massillon, Ohio.

FOR SALE

1904.

1904.

1904.

1904.

In the October Planter I said a patron, who has acquired a wide experience as a breeder, is overstocked and advises me to offer a portion of his stock. To this many replies were received from various sections, and a number of sales made. Of the remainder I am offering the fine prize winning Hackney Stallion and a half dozen yearlings.

Some Shetland and Exmoor ponies, averaging 40 inches, and a few yearlings.

Also a portion of the Guernsey and Holstein cows, which are registered.

Limited area on farm prompts these offerings. Further information may be had of W. J. CARTER, P. O. Box 929, Richmond, Va.

R. H. RICHARDSON,

Having removed to my new and commodious store, at 308 Hull street, Manchester, Va., I am prepared to offer at tempting prices harness of all kinds, hardware, paints and oils; also farm wagons of various grades.

FOR SALE CHEAP

Small stud of Hackneys, stallion Rickell, won 1st New York, Philadelphia, 1896. 7 imported mares, 2 daughters and 5 granddaughters of the great Denmark; also yearlings and foals. Address WESTTOWN STOCK FARM, Westtown, Pa.

WOODMONDE AND HATTONDALE FARMS

BURLINGTON

"The Gentleman in Black,"

Winner of the Criterion Stakes, Pelham Handicap, Brooklyn Derby, Belmont, Trial and Tidal Stakes.

Black horse, by Powhatan, dam imp. Invercauld, by St. Albans; 2d dam imp. Eleanor, by Voltigeur; 3d Themis, by Touchstone; 4th dam Rectitude (dam of Latus, Dr. Calus, Chivalry and Arlistides), by Lottery; 5th dam Decision (dam of Brown Stout XXX and Silvio), by Magistrate, etc., etc. BURLINGTON will make the season of 1904 at J. E. Lane's above named farms at Esmont, Albemarle county, Va.

Fee \$50 with usual return privilege if horse is alive and in my possession.

For particulars address

J. E. LANE,

Esmont, Albemarle County, Va.

For Sale to Reduce Stock.

SOME FINE BROOD MARES, all trotters, and richly bred. Bargains. Address

ROBERT TAIT, Norfolk, Va.

KELLY, 22823.

Record 2:27. Sire of McChesney, 2:16 3/4, etc.

Bay horse, by Electioneer 125; first dam, Esther, dam of Expressive 3, 2:12 3/4; Express, 2:21, etc.; by Express, etc. Kelly represents the highest type of a trotter, having fine size and the form and finish of a thoroughbred. For terms of service address

W. J. CARTER, Richmond, Va.

Kelly will serve at my private stable, 1102 Hull street, Manchester, Va.

Richardson Brothers,

613 Brook Ave., Richmond, Va.,

BUILDERS OF

Wagons and Carriages.

A select lot of business and pleasure Vehicles on hand.

Repairing neatly done. Orders by mail solicited.

W. J. CARTER,

TURF JOURNALIST and
PEDIGREE EXPERT...

ADDRESS:

P. O. Box 929, Richmond, Va.

Or 1102 Hull St., Manchester, Va. PHONE 3380.

Representing "The Times-Dispatch" and "Southern Planter," Richmond, Va.; "Kentucky Stock Farm," and "The Thoroughbred Record," Lexington, Ky.; "Sports of the Times," New York, and the "Breeder and Sportsman," San Francisco, Cal.

Owen Wister, the novelist, was talking about puns.

"I detest puns," he said, "but Fanny Kemble, who was my grandmother, used to tell one made by a certain Baron Rothschild that was good of its kind.

"The Baron was dining out, and some one spoke of venison.

"I," said the Baron, "nevair eats venishon. I think it ish not so coot ash mutton."

"Oh, absurd," some one exclaimed. "If mutton is better than venison, why isn't it more expensive?"

"The Baron laughed, overcome by the brilliancy of the pun that had just come to him. Then he said, and his dialect came in very handy:

"The reason why venishon ish more expensive than mutton ish that the people always prefer vat ish deer to vat is sheep."

SURE.

"What did Noah live on when the flood subsided and his provisions in the ark were exhausted?" asked a Sunday school teacher of her class.

"I know," squeaked a little girl after the others had given up.

"Well, what?" inquired the teacher.

"Dry land."—Lippincott's.

Wife—You seem to be able to read me like a book.

Husband—Yes; I wish I could shut you up as easily.

Established by
GEO. WATT, 1840.

THE CALL-WATT CO.,

MANFRED CALL,
Gen'l. Manager.

Implements, Machinery and Vehicles.

THE UNIT ROAD MACHINE,

So called because it has but ONE WHEEL, and takes but ONE TEAM and ONE MAN to operate it. It has passed through the experimental stage, and stands well tested and perfected. By actual test it has been demonstrated that with one team and four men it will build more and better road than can be done by 40 men with the usual tools. That it saves labor enough to pay for itself every two days it is in use. That it is economy for each township to have one, not only to build its roads, but to keep them in order after they are built. It will do as good work as the heavy, expensive road machines, at very much less expense, and has advantages over any of them. The price is so low every road district and even individuals can afford one.

The following unsolicited communication indicates how the UNIT is regarded:

THE CALL-WATT CO., Richmond, Va.:

Dear Sirs,—Enclosed find check to pay for the Unit road machine. The more I use it the better I am pleased with it. Yesterday my road overseer with one team and three men built more road, and did it better, than could have been done with 40 men with picks, shovels and hoes. It saves labor enough to pay for the machine every two days while in use. This is no exaggeration or idle talk. I will gladly answer enquiry from any one needing road building tools. It is valuable to go behind the big machines and fill the ruts made by the wheels in the loose dirt before it is packed. I think every one of the townships in our county will have one next spring. We have eight townships.

Respectfully yours,

Jackson, N. C., September 21, 1904.

JOHN E. MOORE, Road Commissioner.

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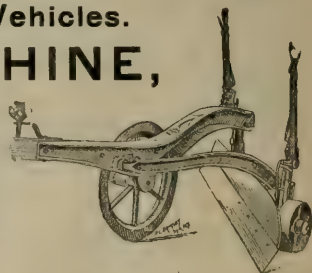
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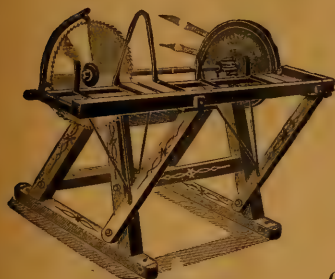


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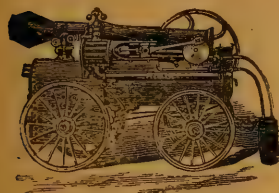
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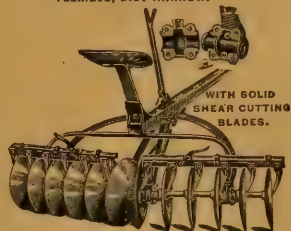
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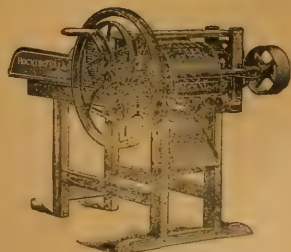


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J. F. JACKSON, Editor and General Manager.

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DECEMBER, 1904.

No. 12.

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Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, December, 1904.

No. 12.

Farm Management.

WORK FOR THE MONTH.

The year has once again rolled round to its close, and the promise of the "Giver of all things" that "seed time and harvest should not fail," has once again been verified. Now that the ingathering of the results of the farmers' labors has been about completed, he can take stock of the same and compare the results with those of past years and seek to derive lessons therefrom for his future efforts. To Southern farmers this retrospect will be upon the whole a favorable one wherever the farmer did his duty by the land. Whilst the weather has been, nearly throughout the South, abnormal in respect to rainfall, there having been ever since the early spring months a deficiency in precipitation in nearly every State, yet in only one or two of these has such deficient precipitation amounted to anything like such a serious lack of moisture as to imperil crops. In several States it has no doubt somewhat curtailed the yield, yet in this and the adjoining States such has not been the case. All our crops, except wheat and hay, have been either up to or in excess of the average. In the case of the wheat crop, the deficient yield was not attributable so much to the lack of rainfall as to the long continued and severe cold of the winter following upon a dry seeding time, which caused slow germination of the crop and left it very small and delicate to withstand the freezing of the winter. The deficient hay yield was no doubt attributable to the lack of rain in the spring and early summer months. With our early haying season this was bound to result in a curtailment of the crop, yet notwithstanding

this we made in Maryland, Virginia and North Carolina an average of one and one-third tons to the acre; in South Carolina one and two-thirds tons to the acre, and in Tennessee over one and one-half tons to the acre. These crops compare very favorably with those of the Northern and New England States, where, although noted for making hay, few average yields in excess of those of the above Southern States are reported. The wheat crop of Maryland made an average yield of 13 bushels to the acre; of Virginia, 10 bushels to the acre; of North and South Carolina, 8 bushels to the acre, and of Tennessee, 11 bushels to the acre. These yields are no doubt very low, and represent no profit to the grower, but when compared with the average made in other winter wheat growing States for this year, may be taken to be not less in proportion than other growers had to submit to on account of the abnormal winter weather. There can be no question that the low average yield of wheat in the Southern States every year is largely the fault of the growers themselves, who will not give that preparation to the land which the crop requires in order to be grown profitably. This is evidenced by the fact that those who do give the land the proper preparation make crops as large as are made in any other part of the country. Even in this year of abnormal low yields we know farmers who made over 30 bushels to the acre without the use of any commercial fertilizer whatever. We have during the fall months written very fully on this subject of the proper preparation of the land for the wheat crop, and hope that the results will be seen next year in a

much higher average yield. The oat crop of the South was again a disappointment, but as this crop is only one of minor importance and mainly grown as a hay or forage crop, this fact is not of serious import, as the deficiency in forage yield was easily made good by the summer grown forage crops. We doubt much the advisability of persisting in making the oat crop a factor in our crops. It is essentially a cold climate crop, and our average weather conditions are not adapted to its successful growth. Its place as forage can well be taken by a summer grown forage crop, which we can raise to perfection. If grown at all, it should be sown in the early fall and be cut for hay when the grain is in the dough state before the hot weather sets in. Turning now to the great staple crops of the South, corn, cotton and tobacco, the retrospect is a most cheering one. Corn, which in area was more than the average has made in Maryland an average yield of 33 bushels to the acre, in Virginia an average yield of 23 bushels to the acre, in North Carolina an average yield of 15 bushels to the acre, in South Carolina an average yield of 12 bushels to the acre, and in Tennessee an average yield of 25 bushels to the acre. These yields are in all cases in excess of the average for the past ten years, and in some cases notably in excess, as is the case in Virginia. Whilst the yield of the cotton crop is not yet ascertained, there is every reason to believe the crop will be in excess of 11,000,000 bales. The tobacco crop whilst less in acreage is in excess of the average in yield per acre. The price of all the staple crops is in excess of the average for ten years. Wheat has steadily risen in price ever since the crop was harvested, and now stands near \$1.20 per bushel, with every indication of going higher. For the first time in the history of this country the production of wheat is not in excess of the requirements of the country, and foreign nations cannot look to us to meet their needs. Indeed, already wheat is being imported into this country from Canada. It looks at last as though the farmer stood some chance of getting a pull out of protection along with the other "infant industries," which have so long monopolised all the benefits of this vile policy. Imported wheat pays a duty of 25 cents per bushel, and when this duty begins to operate and makes bread dearer we shall soon see how the protected manufacturers will howl and denounce the injustice. They will fail to see that what is "Sauce for the goose is sauce for the gander also." So long as they can plunder the farmer they see no injustice in a protective tariff, which enables them to charge the home

farmer from 25 to 50 per cent. more for a machine or implement than they charge the foreigner for the same thing, but when the farmer begins to get a little protection they will object. Let us hope the result will be to get rid of the whole system and make each "tub stand on its own bottom." The "infant industries" are now hoary with age, and ought to be able to "go it alone," or not go at all. With such an outlook as the figures indicate, the farmers of the South may and should be able to look upon the results of their labors for this year with satisfaction. Much of this improvement in the condition of the farming interests of the South is to be attributed to the change which has taken place in the methods of the Southern farmer. From being simply "planters" they are gradually becoming "farmers." We look upon this change with great satisfaction, as it is one for which we have labored earnestly for now nearly twenty years. We have urged in season and out of season that rotation of crops should be studied and practiced, and that the products of the farm should be converted at home into higher priced products than the raw products can ever bring, and which can be marketed at much less cost. This involves the keeping of live stock, and thus the production of home-made manure to take the place of commercial fertilizer. When Southern farmers keep the live stock which they can and ought to do, and consume on the farm all the roughage which they necessarily make in the production of the cereal crops and all the forage crops which they can grow in addition, then the quantity of commercial fertilizer, which at present is such a great tax to add to the cost of the crops, will be largely reduced and the crop producing capacity of the farms will be enormously enhanced. Whilst commercial fertilizers, or rather, we would say, the chemical constituents of which they are composed can be in almost all cases profitably used on land in a high state of fertility for the production of truck crops and tobacco, which have a high relative value over the normal cost of production they cannot be so used, except in the case of acid phosphate, and in some cases and on some lands potash, in the production of the cereals, cotton, forage and grass crops. These depend for their successful production more upon the physical and mechanical condition of the soil than upon the actual amount of quickly available plant food in the soil. They have a long period of growth, and the capacity to extract the food they require from a large area of land, by reason of their extensive root systems, if only the condition of the land is so perfect as to permit of this being done.

There is in all land so large a reserve of plant food as to meet the requirements of these staple crops if only the land is in a proper physical and mechanical condition. The addition of commercial fertilizers or chemicals will never change the physical or mechanical condition of the soil. This can only be brought about by deep plowing and perfect preparation of the land by the harrow, cultivator and roller, and the addition of home-made manure and vegetable matter derived from growing crops, and especially of the leguminous crops, which, in addition to their humus making content, also add to the soil, nitrogen, the one element of fertility not found there in abundance. Farmers are gradually taking to heart the lessons we have so long taught on this line, and it is seen in the increased crop producing character of their lands and their own material improvement. What the South most needs is not so much greater areas of land cultivated, but greater production per acre. As this change comes about greater profit will be the result. The labor cost of producing 40 bushels of wheat or 75 bushels of corn per acre is little more than that of producing 10 bushels of wheat and 20 bushels of corn, whilst the ultimate monetary return is wonderfully increased. The one yield will not pay the labor bill, the other yield will do this and give a large profit on the outlay.

It is too late now to seed any crops except it may be rye, and even for this crop it is very late and its success, if seeded, will largely depend upon the mildness of the winter, and Canada peas and oats for a forage crop. This latter crop ought not to be seeded until the end of January or in February, except in Tidewater Virginia and Eastern North Carolina. In these sections it may be seeded in December, and the period of sowing in other sections be gradually made later as we go westward until in the western sections of the Southern States it is put in in March. Canada peas and oats are essentially a cold climate crop, but can be successfully grown in the South if got in early enough, so that the crop comes to maturity before the hot weather sets in. It should be fully grown and ready for the mower in May, and where this is done it will be found a most useful crop for early grazing with hogs and for green forage and hay. Land to be sown in this crop ought to be in a good state of fertility. It will not make a profitable crop on poor land, but will grow and be found most useful on land which will grow a good crop of cow peas, and will improve the land for a corn crop to follow. The land should be well and deeply broken

and be made fine, and if not in a good state of fertility ought to have 300 pounds of acid phosphate and 50 pounds of muriate of potash to the acre applied broadcast and harrowed in. The peas at the rate of two bushels to the acre should be first sown and be put in deep with the drill or be plowed under so as to give them a cover of at least 5 inches. This will enable them to continue their growth long after the weather is too warm for them if planted shallow. After the peas have been covered sow three-quarters of a bushel of winter oats broadcast and harrow. The crop should not be grazed until the peas are formed in the pods and should be cut for hay when the peas are just beginning to ripen.

The work of plowing land intended to be cropped next year, not already seeded with a fall sown crop, should be given constant attention. In this issue will be found an article dealing with this question of fall and winter plowing and pointing out its advantages, to which we invite the attention of our readers.

The work of cleaning up new land and old fields that have been out of cultivation and are again intended to be cropped should have immediate attention given. Too often this work is put off until far into spring, and then, for want of time, is most inefficiently done, and the result is disappointment in the crop. Get the land broken deeply as soon as possible so that the benefit to be derived from the action of the atmosphere on the land may be as large as possible. Especially plow deeply all galled and gullied places, so that no further washing of the land may take place. Gather up and fill into the deep gullies all loose stones and rocks and plow the soil onto them from the sides. Have all stumps, bushes and briers effectually grubbed out and carried off the land or burnt. Where the stumps are not too large burning is the best way to get rid of them, and so of bushes and briers. In setting up the new fences see that the fields are laid off square or as near thereto as possible, as they will then be much more conveniently and economically worked. Let the fences run in straight lines from point to point. Where good rails are found in the old fence rows utilize these in the new fences by setting posts at a proper distance apart and fastening the rails to them with wire. This wire should be stapled to the bottom of one side of the post and then run up the post over the top and down to the bottom on the other side. As it is taken up the one side of the post staple it to the post at the point where a rail

is to be fixed put the rail against the post and carry the wire round it and staple again to the post above the rail, and so continue doing up to the top of the post. The wire going down the other side of the post should be utilized in the same way to fasten the ends of the rails going in the opposite direction. In this way a good post and rail fence can be made perfectly straight at very little cost and without nails. Often out of an old "worm fence" as many good rails may be taken as will serve to make a good fence or go a long way in saving cost of new rails. Fix gates at convenient places in the fences and so hang them that they will shut when not in use, and thus get rid of the trouble of cattle getting into the crops from rails being left down or gates left open. If any drains are needed in the fields have them put in when cleaning up the land. Put the drains down deep, at least 36 inches, and let them run straight up and down the slopes and not around the hillsides. A drain running straight up and down a slope draws water from both sides, whilst one run around a hill only drains the upper side of it. Let the drains run straight into the main drain and let the main be large enough to carry the water and run it straight to the outlet, which should be a perfectly open place, where no silt or trash can accumulate. Crooked places in drains are sure sooner or later to stop up the drains and render them useless. On all galls and gullied places spread a dressing of barn-yard manure and strawy trash, so that the spot may commence to have some vegetable matter got into it. This after the deep breaking is what it needs to make it fertile again and stop washing.

If you have not already started a system of rotation on the farm plan for one now for the coming years. Lay off the land to be cultivated into as many fields as you wish your rotation to be years long. If a three course rotation is decided upon lay off three fields and so on for a four or five or six year course. A four or five year rotation is, in our opinion, as short a one as ought to be adopted except it may be upon the light soils of the coast sections, where a grass sod will not hold on the land. On the heavy red lands of the western parts of the State, where grass holds well, even a six or seven year rotation will be found profitable.

Get the manure out from the stables, barns and pens as it is made whenever the weather and the condition of the land will permit of hauling. The less the manure lays in the yard the less will be the

loss of its plant food. Get it on to the land to be planted in corn, where not wanted as a top dressing on wheat or oats. It will always pay on the corn crop better than any other fertilizer. It is equally valuable as a top dressing for wheat and oats, and if got on before severe freezing weather sets in will largely prevent heaving of the land and winter killing of the crop. Much time may be saved in spring, when work of all kind presses, by utilizing the winter months in getting manure and fertilizer on to the land. The mineral fertilizers like acid phosphate and potash may be safely applied to the land in winter without fear of loss from leaching. They require time to become available for the plants, and will help the crop better when applied some time before the crop is planted. Bone meal, tankage and cotton seed meal may also be safely put on the land some time in advance of the planting of the crop, as these fertilizers must first decay before they are available to the plants, and this process of decay is very slow in cold land. Nitrate of soda should never be applied until after the crop is planted and has made a good start in growth. It is as soluble as salt, and the nitrogen in it is immediately available to the plants, being in the form in which plants take nitrogen. Unless the root growth is active this nitrogen may be easily lost by leaching.

Ditches and drains should be cleaned out and new ones made where needed. All wet fields and wet places in fields should be underdrained where practicable. The drains in these places should be put down deeply, not less than 36 inches. It is the underlying water which causes the trouble and not that on the surface. Get the stagnant, underground water away and that which falls on the surface will soon find its way into the ground and leave the land dry and sound. After draining these fields and places give a dressing of lime at the rate of 25 or 30 bushels to the acre. This will sweeten the land, which is almost invariably sour when water soaked.

Clean out the ice pond and ice house and be ready to harvest the ice crop as soon as it is made. Farmers in the South cannot afford to miss the first opportunity to get ice, as a second may not come here. See that all sources of pollution are cut off from the ice pond, so that only pure water is frozen. Ice made from impure water is always dangerous to use. If you have no ice house, have one built above ground. This need not cost much, as all that is needed is a double framed building set on high, dry ground,

where the bottom of the house can be kept free from water. Put in a drain into the middle of the house and let the ground slope from each side to this drain, and put a trap in the drain to exclude the inflow of warm air. Then put over the ground a slatted floor raised six inches above the ground, so that the ice will be kept dry in the bottom. Build the house exactly as you would build any other frame building, only make the space between the inner and outer framing 12 inches apart instead of 4 or 6 inches. Fill in this space with sawdust and put a double roof on the top, with a similar 12 inch space between the inner and outer roof. Pack the ice solid and cover with 12 inches of sawdust. See that the roof is well ventilated by having a slatted window in at each gable so that no warm air may accumulate there. Put a double door with a 12 inch space between the inner and outer door.

See that a plentiful supply of well seasoned wood is in the wood-house so that the housewife is not pestered with growls about a cold house or prevented from having the meals on time by reason of having to cook with wet or unseasoned wood. This will save much temper and unpleasantness.

May the Christmas be a merry one and the New year a happy and prosperous one.

WINTER PLOWING.

In our last issue we urged that when it became too late to sow even rye on land intended to be cropped next year, that the work of plowing the land should not be neglected, and that this plowing should be deep, and wherever the subsoil was a good one—that is to say, having a clay basis and not leachy—this deep plowing should be also supplemented by subsoil plowing. In taking up this position we knew that we ran counter to the opinion of a very large proportion of Southern farmers, and we have been criticized frequently as to the soundness of the advice given. This is no new opinion of ours, but one at which we have arrived after mature consideration and a careful examination of the principle involved, and also as the result of practical experience. Those who object to the advice mainly base their objections on the ground that the only value of deep winter plowing is that it admits of the frost getting more easily and deeply into the land, and thus more completely and thoroughly disintegrating the soil, and

that as we have, as a rule, only very little hard frost in the South, the benefit to be derived is not commensurate with the labor involved, and that such labor is often largely wasted because the land has to be re-plowed in the spring before planting can be done. If the only value of winter plowing depended upon the freedom with which it permitted the action of the frost on the land then we should be prepared to grant the validity of the objection to it here in the South, as we do not usually have frost so severe or so long continued except in the higher elevations of these States as to be of great value in disintegrating the soil. But this action of the frost is in the South one of the least important of the benefits which the land derives from being deeply broken in the fall and winter. Prof. King, who is recognized as one of the leading authorities on soil physics in this country, says: "Over much of the Atlantic coastal plains and those sections of the South south of the old glacial borders and back from the Gulf coast east of the Mississippi *there is probably nothing which tends to deplete the cultivated fields of their fertility so rapidly as surface washing, and how to lessen this or to prevent it altogether is the most serious practical problem of soil management for that whole region.* The compact, close structure, especially of the surface foot of these soils, their imperfect and feeble granulation, combined with the heavy, intermittent character of the rainfall, are the immediate causes of the destructive washing." An examination by Prof. King of the physical character of these Southern soils and those of many Northern soils shows that the Southern soils have much less pore space and openness than is characteristic of the best Northern soils. Prof. King says: "This openness of structure in soils is an extremely important character, for it determines not only their capacities for both air and water, but also the freedom and rapidity with which these indispensable component parts of all fertile soils move into and out of the root zone. It even determines in a very large measure the depth of the root zone itself, and thus the magnitude of the feeding area available to the crops, which, in turn, is a prime factor in determining the fertility of all field soils. Openness of soil structure and freedom of air circulation are recognized by all practical greenhouse men as indispensable prerequisites to successful results under their conditions. Not only do the soils of the North and the South differ in their openness of structure, but the soils of the South have a less complete and less strong granulation, and these two characteristics are extremely important in determin-

ing not only the freedom with which both rain and air enter and leave the root zone, but at the same time they influence the depth to which roots penetrate the soil. The larger pore space and coarser and stronger granulation provides greater capacity and better facility for the storing of the rain as rapidly as it falls, and as a consequence of this difference in the character of the soils in the two contrasted regions, there is better under drainage, less surface washing of fields and less loss of water soluble plant food in the North, while the roots of crops generally penetrate the soils much more deeply than they do in the South. Whenever heavy rains fall on the Southern soils under consideration their close structure and feeble granulation result in the surface pores of the soil becoming so quickly and extensively closed that the soil air finds little opportunity to escape, and yet only so fast as it does can the rain enter the soil, and hence during heavy rains the water accumulates quickly and extensively upon the surface. The result is that the surface soil after having lost much of its coarser granulation is readily taken up by the water held at the surface, and its finer and more valuable portions, together with the readily water soluble plant food and organic matter are borne away in the surface drainage to the great detriment of the fields. What, then, shall be done to establish a deeper openness and a coarser and stronger granulation in the soils of the South Atlantic and Gulf Coastal plains in order that there shall be lost in the surface drainage less of the most valuable portions of the surface soil, less of the undecomposed organic matter, and less of the readily water soluble plant food which collects on the immediate surface through rapid evaporation aided by capillarity? *There can be little doubt that deeper plowing will not only lessen the tendency of Southern soil to wash, but that it will increase their general productive capacity.* The deeper general plowing at frequent intervals will not only increase the effective openness of the soil, but it will greatly aid in developing a stronger and better granulation, and both conditions are necessary to reduce the tendency to wash." We have quoted thus at length from Prof. King because he states more cogently and succinctly than any other authority we know the true principles underlying the necessity for deep and frequent plowing of Southern lands. When can this deep and frequent plowing of our lands be best done? There can be no question that our fine, open winters are the best time. The land is then usually in a better mechanical and physical condition for plowing than at any other season of the year. It is neither too wet

nor too dry. A team can do a good day's work without being punished by the sun, and the man can do his duty with less physical discomfort. In this work the winter season can be profitably utilized and horses and mules instead of eating their heads off in the stable can earn their rations and contribute to the permanent improvement of the farm. Another great and important advantage secured by fall and winter plowing is that it enables all of the vegetable matter grown on the land in our genial climate in the late summer to be turned under when in the best condition for adding to the humus content of the soil. This addition of organic matter to the soil has great influence upon the soil granulation and water holding capacity of the soil, and upon these factors largely depends the crop feeding capacity of the soil. When once a better soil granulation has been established and the soil itself filled with vegetable matter, there need be no fear that plowing done in the fall and winter will necessarily have to be done over again in the spring before planting can be done. The surface may appear baked and dry, but the underlying soil and subsoil will be loose and open and working with a Disc, Acme, Cutaway or Spading harrow will be all that is needed to make a good seed bed. The moisture content of these fall and winter plowed lands will be much higher than those plowed just before being planted, and the crop feeding capacity of the soil and its availability through a hot, dry summer will be much greater. Especially is it important for Southern farmers to plow this winter because of the present low water content of the land. The rainfall through the South has been deficient all the past summer, and the soil and subsoil are both dry. This is evidenced by the failure of springs and wells throughout the section of which we have frequent complaint. If no special effort is made to conserve the winter and spring rainfall, but it is allowed to run off as it falls, which it must and will do unless the land is deeply broken, the chance of profitable crop production next year is likely to be a slim one. Get the teams to work and keep the plows running on every fit day so long as the land is dry enough, and the result will be a readiness for crop planting in the spring, which will then be appreciated when work presses on every hand, and a probability of crop yield, which will be appreciated when the time comes to harvest the crops.

TURNIP GROWING IN SCOTLAND.

We have often been amused hearing farmers say that they have grown a good crop of turnips when

they have made 200 or 300 bushels to the acre. The following report of the results of a turnip growing contest in Banffshire, Scotland, just decided will be an eye-opener to farmers here as to the possibilities of this crop when properly grown in a climate suited to its best development. Whilst many farmers here will, no doubt, be inclined to think that there must be some mistake in the weights of the crops grown in the contest, yet we can assure them this is not so, as we have often ourselves grown over thirty tons of Swede turnips (*Ruta Bagas*) to the acre. The contest reported was entered upon to test the value of sulphate of ammonia as an adjunct to farm-yard manure, as compared with farm-yard manure alone:

"The award has now been made in the competition held under the auspices of the Central Banffshire Farmers' Club for growing turnips with sulphate of ammonia. The prizes, given by the Sulphate of Ammonia Committee, have been gained as follows: Swedes—1 A. Wilson, Haughs, weight with ammonia, 37 tons 18½ cwt. per acre; without ammonia, 30 tons 10¾ cwt. per acre; 2 L. E. Longmore, Baldavie, with ammonia, 37 tons 1¼ cwt.; without ammonia, 29 tons 2½ cwt.; 3 R. Allan, Bush, with ammonia, 36 tons 3¾ cwt., without ammonia, 25 tons 1¼ cwt. Yellows—1 T. Gordon Duff, Drumnair, weight with ammonia, 52 tons 11¼ cwt. per acre, without ammonia, 43 tons 10½ cwt.; 2 J. Findlay, Aberlour Mains, with ammonia, 47 tons 14¼ cwt., without ammonia, 29 tons 15½ cwt.; 3 L. Longmore, Baldavie, with ammonia, 45 tons 14¼ cwt., without ammonia, 30 tons 10½ cwt. The judges say that the crops in general were very healthy; that Swedes were not nearly at maturity; and that turnips weigh in 23 pounds were not uncommon."

The heaviest crop of Swedes (*Ruta Bagas*) grown (37 tons 18½ cwt.) is the equivalent of 1.544½ bushels of the standard Virginia weight. The heaviest crop of Yellows (turnips such as are commonly grown here (52 tons 11¼ cwt.) is the equivalent of 2,140¾ bushels of legal standard Virginia weight. It will be seen that the sulphate of ammonia used materially increased the yield per acre. We do not doubt but that when the Swede crop completed its growth that it would exceed the weight per acre of the yellow turnips. Swedes will grow much later and keep much longer than the yellow turnips. It is upon such crops of turnips as these that Scotch and English stock breeders keep and feed their prime beeves and sheep during the winter months.

Mention THE PLANTER in corresponding.

SOME PASSING NOTES.

Editor Southern Planter:

Your remarks on the manure heap in the November number should be read more than once by every thoughtful Southern farmer. The mischief that has been wrought in the South through the improvident use of commercial fertilizers has not been due to the fertilizers themselves, but to the lack of intelligent study of soils and their needs, and the utter lack of an intelligent rotation of crops and the maintaining of the humus in the soil. And there is right where the difference between stable manure and fertilizers comes in. It is not in the amount of nitrogen, phosphorus and potassium that are available in the manure, but to the maintaining of the nitrifying bacteria and the moisture retaining humus that its special value is due. This is what makes the manure so lasting in its effects. But, as we have often said, where a farmer cannot feed stock at a profit he can come nearer replacing the manure with commercial fertilizers if he uses only the mineral forms of potash and phosphoric acid to increase the production of the legumes. The work at the State Farm of the North Carolina Board of Agriculture, in Edgecombe county, demonstrated this very plainly, for it was shown that a far larger crop of cotton was grown after a fertilized crop of burr clover than was produced by direct fertilization. When Southern farmers realize that they are wasting their money in the purchase of nitrogen that they could get free, and that the true use of fertilizers is to improve the land through the increased growth of the legumes, there will be perhaps less money spent for fertilizers, and more used of a cheaper form, and the resulting crops of legume hay will enable them more profitably to feed stock. In fact, when a farmer has a great store of feed he will be certain to want to feed it, and the getting of the feed is the first thing to do, and fertilizers properly used will enable him to do this and to increase his humus at the same time. Another thing farmers everywhere need to learn, and this is that a manure heap is a bad thing to have, and that the only true way to get the best results from manure is never to have a heap, but to get it out where some plant is waiting for it as fast as it is made. My advice about the manure heap, then, is never to have one, for no matter if the manure is spread on the land and lies there all winter, it will do more good and go further than if allowed to waste in a heap.

The advice of the Ohio Station on the use of fertilizers coincides with what we have been insisting

upon for years, a short rotation and plenty of legume crops. The sixth section is particularly to be studied. If a farmer does not raise manure enough to carry out the three year plan of manuring the corn field, we agree with the Ohio Station that it is time to readjust his system. Then, too, Dr. Thorne's further statement as given at the Ohio Fair, shows what we have been insisting upon, that a manure heap is a bad thing to have when there is nearly \$1 difference between the value of manure per ton that has lain in the barnyard and that which was hauled and spread.

Dr. Kilgore's bulletin on burr clover is worth a study. Burr clover being a sort of annual alfalfa (*Medicago denticulata*), it was to be presumed that the bacteria that lives on its roots would also live on alfalfa. Then as the burr-like seed carries the bacteria of the burr clover, it becomes an easy matter to inoculate land for alfalfa by a preceding crop of burr clover. The demonstration of this fact is one of the most valuable recent contributions to the culture of alfalfa.

We have seen what Mr. Blacknall has done, and the strawberries he grows on what were extremely poor hillsides, and his experience adds a testimony to the value of the cow pea.

You are right in telling Mr. Ingham that currants and gooseberries are useless in the South. I had some, years ago, at the Station farm, and finally dug them up. In my home garden I had a gooseberry bush that grew and flourished finely, and in six years gave me one gooseberry. They invariably bloom here in the winter and get killed, and if they did not do this they would fail from mildew. Mr. Ingham thinks that low headed trees could not be cultivated. Inasmuch as there is not a particle of need for cultivation closer than the extremity of the limbs where the feeding roots are, this is hardly an objection, and low trees are essential to success in the South. We head all our trees twenty inches from the ground. After an apple orchard gets well grown there is no further need for cultivation if the grass is kept mown and used as a mulch. I have been advocating this for thirty years, and of late it has been discovered to be an entirely new idea that some Ohio growers have adopted and are succeeding with. I think that it was the Rural New Yorker that recently published cuts showing one of these low headed and mulched trees, with limbs sweeping the ground, and another cut showing what the writer seemed to think a model tree with a tall stem, and the suggestion was: "Which would you take." I would certainly take the tree

with the limbs touching the ground as the best tree in every respect.

Now, as to the influence of the Stock on the graft, I do not believe that the stock does anything but enable the graft to get food from the soil, and to grow, and its subsequent growth covers the stock with new layers of growth of whatever the top is. A pear on quince roots overlays the quince with successive layers of pear growth, and a longitudinal section will show that the pear growth is perfectly continuous clear to the remotest rootlet. Pear leaves cannot elaborate anything but pear sap, and they do not form any more quince cells. There may be an adventitious bud on the quince root, and if this is allowed to grow and make leaves there will be more quince roots formed, but if there is no growth above except pear, the subsequent growth will be pear and not quince on root as well as top. I stated this at the Roanoke meeting of your Horticultural Society, and one gentleman said that he had cherries on mazzard stocks that made mazzard sprouts thirty feet from the stem. I do not doubt this, for in all probability they had been allowed to make sprouts from the first, and the mazzard sprouts made mazzard roots to sprout more. But where no growth is made from the stock there can be nothing but what the top is, for roots are the product of stems.

W. F. MASSEY,
Editor of Practical Farmer.

REPORT ON INOCULATION OF SOY BEANS AND OTHER LEGUMES ARTIFICIALLY.

Editor Southern Planter:

The land upon which the beans grew is miserably poor, having been planted in corn continuously by a former tenant for years without any manure or fertilizer applied. I am quite certain that soja beans had never before been grown upon it, therefore no chance for the bacteria to be naturally in the soil. The soil is a sandy loam, with subsoil of yellowish color. The beans were drilled in rows three feet wide, with a small quantity of 8.1.1 fertilizer mixed with some hen manure and loam, perhaps of the mixture 200 pounds to the acre. Soil was treated as directed by the Department of Agriculture, soaking for a short while in mixture, balance of water was mixed with the above composition of fertilizer and drilled upon the plants at first working, cultivator following immediately after covering. The season has been a most propitious one for a luxuriant growth. The best land had the most luxuriant growth. On the poorest parts there were few no-

dules on the roots. A neighbor who grows these beans every year had a beautiful field, the roots covered with large nodules. He says he never fails to find them, though without inoculation. Of the yield of beans I cannot say.

Canada Peas.—Wet spring prevented sowing.

Navy Beans.—Used the bacteria in the same way as for the soy beans. Result negative. Much same quality of land. Could find no nodules.

Cow Peas.—On land where this crop had been grown last year sown at last working of the corn and manured the growth was luxuriant and many nodules. On poor land, very poor crop. A good many died after coming up, without sign of nodules.

Butter Beans.—Two rows luxuriant; very productive. On poor land crop very poor.

Red Clover.—This was on a piece of new ground. Two houses had stood upon part of the land, and there the clover was good and had nodules. Very patchy elsewhere. The bacteria was applied to all the crops in the same way as described for the soy beans. Soy beans invariably seem to answer on this land. Whether the bacteria increased the growth is hard to say. From my neighbors' experience I think the soy bacteria must be already in his soil.

Henrico Co., Va.

JOHN COWEN.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

We have several letters containing enquiries to which answers are desired to which the names and addresses of the senders are not signed. In accordance with our rule, these are not answered. As an evidence of good faith and for our own protection, all letters sending enquiries must be signed by the writers and their addresses be given. If the writers do not desire their names published we are always glad to oblige them, leaving them free to sign with an assumed name or initials.—Ed.

Thistles.

A subscriber asked us recently how to get rid of thistles. We replied we knew of no way but cutting them down and preventing seeding. We asked for the opinion of others on the subject. One gentleman writes us: "Cut them off with the hoe twice a year and never let them seed. Have killed fields of them in this way."—Ed.

Charges for Sale of Live Stock.

Replying to an enquiry as to the charges on the sale of live stock at the Pittsburg market, we publish the following information supplied to us by the Secretary of the Live Stock Exchange, Pittsburgh:

LIVE STOCK.

YARDAGE CHARGES AND COMMISSION RATES.

Per head.

Cattle, yardage and scale.....	15
Hogs, yardage and scale.....	6
Sheep, yardage and scale.....	6
Calves, yardage and scale.....	8
Feed—Corn, \$1.25 per bushel; Hay, \$1.50 per hundredweight.	

Commission for selling live stock shall not be less than the following rates:

Cattle, per car load.....	\$10 00
Hogs, per double deck.....	10 00
Hogs, per single deck.....	6 00
Sheep and lambs, per double deck.....	10 00
Sheep and lambs, per single deck.....	6 00
Two single decks when billed as a double deck 10 00	
Calves, per double deck.....	15 00
Calves, per single deck.....	8 00

Fresh cows, less than car load lots shipped or driven in (not mixed ears), 75c. per head; mixed ears, 50c. per head for cattle up to 10 cattle, and \$5 for the balance of car.

When a part of a car is double decked and loaded with sheep or hogs, the commission on such car shall be in proportion to the single deck rate not to exceed \$10.00.

Growing Onions from Plants.

Kindly answer the following questions. Wish to plant a half acre in Yellow Globe Danvers onions from sets grown in cool frame covered with sash:

1. Will cool frame answer or must I sow in hot bed?
2. How much seed will it require to raise enough sets for a half acre sown under a 3x6 sash?
3. What time must seed be sown, and when must sets be transplanted?
4. What kind of fertilizer must be used, and how much? Land was previously planted in sweet potatoes and sugar corn, and was then covered with well rotted stable manure and plowed down.

Lancaster Co., Va.

SIMON ZIRKNITZER.

We understand our enquirer to mean that he wishes to grow the onions from seed, not "sets." He uses the word "sets," but from the context we take it he means "plants," and so reply. We would say at the outset that we think it probable he would find

Pearl or Southport White Globe better varieties to grow in the way proposed than Yellow Danvers.

1. Yes, we think cool frames will answer. The plants should be ready by the time the weather is warm enough to grow them outdoors.

2. About one pound of seed will be required. The half acre will require about 60,000 plants to set it, and a pound of seed should grow this number.

3. Sow the seed in the middle of February and commence to set out the plants in April if the season is a favorable one. They should be about as thick as a pencil then, and should be well hardened off before being set out. Make the rows twelve inches apart, and set the plants four inches apart in the rows.

4. You should apply about 500 pounds of fertilizer to the half acre in addition to the manure you have already applied. Make this 500 pounds of the following ingredients: 50 pounds nitrate of soda, 200 pounds cotton seed meal, 200 pounds acid phosphate, 50 pounds of muriate of potash.—Ep.

Sow Failing to Breed.

I have a Berkshire sow 11 months old last Christmas, weighing 200 pounds then and fat. She farrowed with difficulty; pigs came dead; since then she has been in a lot with a fine boar, but has not become with pig, notwithstanding she has been served almost weekly by the boar. No question about the male's fertility. The sow is not too fat. Would be glad to have your advice in the matter. SUBSCRIBER.

Halifax Co., Va.

We think it likely that the sow was injured by the difficult farrowing of the first litter, and if this be so, it is not probable that she will ever breed again. The only suggestion we can make likely to help would be to take the sow away from the boar for a couple of months, and then let her be served once only. If she then fails to breed make her into meat.—Ep.

Corn and Annual Clover.

In your October number you answered my inquiry about corn. I would like to ask a few more questions. You say 300 pounds of acid phosphate and 50 pounds of muriate of potash per acre, and the next year follow with 50 bushels of lime. Do you mean not to put anything else but the lime? Or do you mean put 50 pounds of potash? Please let me know if you think this is full quantity of fertilizer to get the best results. J. L. CAMP.

Southampton Co., Va.

We believe that with the application of the acid

phosphate and potash one year and the lime alone the next and the plowing down each year of a crop of crimson clover, you will be able to continue your corn for years without depleting the fertility of the land. By heavier fertilizing for the corn crop, say with heavy yard manure or with a complete fertilizer, say 300 pounds of acid phosphate and 50 pounds of muriate of potash at the planting of the crop and a top dressing of 100 pounds of nitrate of soda after the crop has commenced to grow, you could no doubt increase the yield of the corn crop, but except with heavy yard manure we doubt whether it would be done profitably. We rarely find fertilizers profitable on corn.—Ed.

Improving Land for Peanuts and Corn.

What kind of chemicals ought I to use on my land to increase the yield of corn and peanuts? My land is not hard and stiff nor do we call it sandy land. In digging holes in the ground I find when I get 12 or 15 inches I come to clay. We use marl, as lime costs so much, and I wish you would say what I ought to use and how much to put to the acre and how it ought to be applied and what time of year and where I can buy the chemicals, and about what they will cost me per ton. Would it pay to subsoil light or sandy land? S. B. EDWARDS.

Serry Co., Va.

What the farmers in the peanut sections of the State most need in order to enable them to get heavier yields of nuts and better crops of corn is a longer rotation of crops on the land. The growing of peanuts and corn in succession year after year has caused the natural humus of the soil to be so burnt out of the land that it has become in many cases little more than a sand bed. The physical and mechanical condition of the soil is so deteriorated that it is impossible to make the yields which should be made. In addition to this the natural supplies of the mineral fertilizers have also been so depleted that the small annual applications made of mixed commercial fertilizers fail to give the needed support to the crop. The fertility is unbalanced, and only such a yield is possible as can find food sufficient in the least abundant of the mineral supplies of plant food. To correct these deficiencies the land should have a dressing of lime at the rate of 25 bushels to the acre or a corresponding heavy marling. This will improve the physical condition of the soil by making it more cohesive and capable of holding fertility. Where land has been in peanuts it should be followed by a crop of crimson clover and wheat, oats and rye mixed. This crop will give good, early spring grazing for

hogs and calves, and should be plowed down and followed by corn. At the last working of the corn sow crimson clover, and in the spring plow this down and prepare and plant the land in sweet potatoes and then sow crimson clover to cover the land in winter, to be plowed down in the spring and be followed with peanuts again. As to the fertilizer to be used. A crop of peanuts of 60 bushels of the acre requires for its production 85 pounds of nitrogen, 15 pounds of phosphoric acid, 32 pounds of potash, and 46 pounds of lime. A large part of the nitrogen required is obtained by the plant from the atmosphere, but the other constituents must be got from the soil, and if not already there in available form, must be supplied in the fertilizer. The following formula will meet the requirements of the crop: 80 pounds of 14 per cent. acid phosphate, 300 pounds of cotton seed meal, and 63 pounds of muriate of potash. These ingredients can all be bought in Norfolk from parties whose advertisements will be found in this issue of *THE PLANTER*, Messrs. Percy L. Banks and T. C. Andrews & Co., They will gladly quote you prices. As the prices vary in the market from day to day it is useless for us to quote you. In addition to the fertilizer used on the peanuts, we would advise the use of 300 pounds of acid phosphate on the crimson clover crop to ensure a good growth and thus help the corn crop.

It is doubtful whether it would pay to subsoil sandy land where the clay is so far below it as you describe. It might be worth while to try the experiment on a small plot. If there is a hard pan anywhere under the land it would pay to break this with the subsoiler and thus be able to increase the depth of soil and feeding area of the crop.—ED.

Smoke House—Curing and Smoking Meat.

Will you please advise in regard to building a smoke house and salting and smoking meat? How large should a smoke house be, say to smoke from 30 to 40 hogs, and how long should meat stay in salt before smoking, and how long ought it to be smoked?

FRED. BELCH.

Manager for David Dunlop.

Charles City Co., Va.

We asked our friend, Mr. J. O. Thomas, of Smithfield, the most successful curer of Virginia hams, for his views on this subject. He writes us as follows, for which we tender our thanks:

A smoke house to hold the meat of 40 hogs, I think, should be 14 feet square, 12 feet pitch—that is, 12 feet from the sills to top of plates, with sharp roof

covered with shingles, the building underpinned with brick or stone. The house should be built tight, so as to be dark and be kept clean. Smoke slowly so that the meat will not get warm, and smoke two or three weeks, or until the meat is colored to suit. Meat should lay in salt from three to five weeks, according to size of meat. Pork should never freeze. Never use lightwood to smoke with.

J. O. THOMAS.

Corn Stalks.

How is the best way to handle a heavy growth of corn stalks? By plowing them in or cut them down and allow them to remain on the land for fertilizer? I would like to know the best way to get clear of them for next year's crop.

J. L. CAMP.

Southampton Co., Va.

This is a problem that is difficult of solution for your section. No doubt the proper way to handle the stalks is to cut the corn down at the roots and run the crop through the husker and shredder and feed the shredded fodder to stock. But in sections like yours, where the tall Southern corn grows so luxuriantly, and where not sufficient stock is kept to consume the fodder, it becomes a problem how best to get rid of the stalks. They ought to be returned to the land in some form. There is a machine on the market for breaking down and cutting up the corn stalks so that they can be conveniently plowed under. Perhaps this would help you.—ED.

Lime for Corn Land—Paragon Chestnuts.

1. I have a piece of land that I had in corn this year, and wish to put it in corn next year. Will lime be all right to use on it, say twenty-five or thirty bushels per acre, or ought I to use more? I also have a quantity of stable manure that I want to put on it, will it do well to use them together?

2. Where can I get the Paragon chestnut scions for grafting purposes, and will they do well in this country?

J. G. COX.

Carroll Co., Va.

1. It is poor farming to follow corn with corn. Not until Southern farmers learn to practice rotations suited to the section in which they farm will they succeed as they ought to do. No land, however good, ought ever to grow the same crop two years in succession. It means impoverishment of the natural fertility of the land, however the land may be artificially supplied with food. If your land has not been limed recently it will very likely respond to an application of lime given at the rate you suggest. This lime will improve the mechanical and physical

condition of the soil and will release and make available natural fertility inherent in it. The land should be plowed at once and the lime be applied as soon as plowed and be harrowed in lightly. In the spring just before planting the corn you may apply the stable manure without fear of loss, but if applied at the same time as the lime or even shortly afterwards much of the nitrogen in the manure will be lost.

2. We believe Messrs. W. T. Hood & Co., Nurserymen, of this city, whose advertisement you will find in *THE PLANTER*, have the Paragon chestnut, and can possibly supply you with scions. It is said to do well here.—ED.

Diarrhoea in Chickens.

Can you tell me what will prevent young chicks from getting the diarrhoea? I have trouble with them when they get two days old.

Gloucester Co., N. J.

FRED. SCHWAB.

Diarrhoea in young chickens is almost invariably caused by cold and damp or by injudicious feeding. Young chickens must be kept both warm and dry if they are to succeed in making the race for life. Feeding wet and sloppy feed is also a prime cause of this disease. Oatmeal grits, or cracked wheat or rice are the best foods for young chicks. These should be varied with wheat bread crumbs soaked in milk and squeezed nearly dry and fed fresh. Sour food of any kind will also produce diarrhoea and other troubles. Let them have plenty of grit and a little bone meal in their food once a week.—ED.

Artichokes.

Can I plant artichokes after Irish potatoes? My intention is to plant the potatoes at the end of February or beginning of March and after digging, about May, to plant the artichokes in the same ground. Would you advise to use fertilizer before I plant artichokes?

A SUBSCRIBER.

Bedford Co., Va.

It will be too late to plant artichokes after Irish potatoes are dug. Artichokes should be planted in March or April at the latest.—ED.

Preparing for Alfalfa.

We have an old meadow on our farm which has been neglected for twenty years or more. It is bottom land with a good-sized stream of water running through it, and has been producing the poorest quality of hay, most of it being wire grass. Its area is about 54 acres, and it is about 1,600 feet above sea level. I have tile drained along the foot of the hill and from the low, wet spots, and wish to plow it up

and put it in corn in the spring with the idea of following it with alfalfa. When we bought the farm two years ago I planted a small experimental patch of alfalfa with a worse crop of wheat (through ignorance), but in spite of this and no attention the first season I have secured a good stand, which I cut three times this season.

This meadow land is sour, and I wish to lime it well. Will you kindly give me your opinion on the following points:

1. If I succeed in getting the land plowed by the first of January, should I lime it immediately or wait until spring?

2. Will 50 bushels per acre be sufficient?

3. Will land plaster in same quantity be as effective as lime, cost not considered?

4. What quantity and kind of fertilizer should be used?

5. Will burr clover planted at the last working of the corn produce a sufficient stand to turn under in the fall?

6. If clover is turned under will it sufficiently inoculate the land without sowing soil infected with alfalfa bacteria?

7. Will this land carefully prepared and cultivated for the corn, plowed up in the fall and disced, say four times the following spring and seeded and rolled be in fit condition to produce alfalfa or should it be cropped another season?

8. When the alfalfa is sown should the land be limed again or fertilized?

9. To turn to another subject. Can brood sows and pigs be carried to advantage through the winter months on a diet of ensilage, either corn silage or a mixed ration without other feed.

J. V. L. RINAARD, *Supt. of Property.*

Augusta Co., Va.

1. Lime the land as soon as plowed.

2. Yes.

3. No. You want the carbonate of lime, not the sulphate.

4. We doubt very much whether the use of any fertilizer would be profitable on the corn crop. Of course you might by the use of fertilizer, say 300 pounds of acid phosphate per acre, applied broadcast a few weeks before planting the corn and a top dressing of 100 pounds of nitrate of soda applied to the corn just after it had commenced to grow largely increase the yield of corn, but it is very questionable whether this could be done with profit. Our experience always has been that the use of fertilizer on corn is rarely profitable. This land well limed should make a good crop of corn without anything else added.

5. No. This clover should stand a year to make

a cover sufficient to make any improvement in the land.

6. It would if the clover stood until the early fall of the following year, but not otherwise. As you have a field of alfalfa you can easily inoculate the land with soil from this field.

7. This depends on whether the land is badly infested with weeds. If so, it should be cropped another year and be fertilized with barnyard manure, if possible, and 300 pounds of acid phosphate per acre. If the land is clean when the corn crop comes off plow and work well during the fall and winter, and in the spring apply 300 to 500 pounds of bone meal to the acre, and sow the alfalfa bacteria and then the alfalfa. No further lime need be applied. In your section we think it will be safer to sow the alfalfa in the spring rather than the fall, unless the seed can be got in in August.

8. See last answer. We do not think you need to apply any potash in your section in the fertilizer used at any time. The lime will make available the potash naturally in your soil.

9. No. This experiment has been tried. They cannot eat enough of the food to meet requirements. It is useful as an addition to the ration, but the sows and pigs should have other grain feed, the best being a mixture of ship stuff and a few peas.—Ed.

Improving Land in Alabama.

I own a forty acre lot in Southern Alabama, in what is known as the long leaf pine belt. Top soil is about three to four inches deep (sandy loam), with a red clay subsoil. I am having the land cleared of stumps, etc., and was about to adopt the following method to put the land in proper trim for any kind of crop:

First. To turn over top soil with turning plow, and have subsoil plough follow to a depth of 10 or 12 inches, and fertilize and plant, but have been advised to use a turning plough only and plough to a depth of ten inches, turning top soil under and then fertilize and sow to velvet beans, and when the beans are ripe to gather the seed and plow the vines under, bringing the original top soil to the surface again.

The idea is to dispense with the subsoil plow in order to save the price of the plow, and also to save cost of extra man and horses to operate it. I want to make the land good enough to grow anything. Please advise me through the columns of *PLANTER* how to proceed to obtain the best results.

Pullman, Ill.

BACKWARD.

We doubt very much your being able to grow a good crop of velvet beans on this land by plowing the land 10 inches deep and then fertilizing and seeding the beans. There will be too much of the subsoil turned

up to become fitted to give up its plant food the first year. Better plow the land 6 inches deep and subsoil another 6 inches and then sow the velvet beans with some acid phosphate applied broadcast, say 300 pounds to the acre. Let this plowing and subsoiling be done at once, so that the weather may have time to act on the subsoil brought up. In plowing with the turning plow do not turn the furrows right over, but leave on edge and thus permit of the mixing of the surface and subsoil by harrowing. Harrow well and make fine before seeding the beans. Let the vines mature well before turning them down, and then the year following you should have a piece of land capable of making a fair corn crop.—Ed.

Red Clover—Lawn Grass.

I have been an interested reader of your valuable journal for about a year now, and feel that I have been greatly benefited. Please answer the following questions through your next issue:

1. Is it possible to get a stand of red clover sown about the 15th of October on land pretty well adapted to that legume?

2. What is the best method to follow in order to get a stand of grass on a lawn where there are oak trees, the kind of grass most adapted, and the most suitable time to sow?

SUBSCRIBER.

Pittsylvania Co., Va.

1. If the winter should be a mild one it may be possible to secure a stand of clover in your section sown as late as October 15th, especially if lightly top dressed with barnyard manure. If the winter be severe this is doubtful. Red clover should be sown in the fall not later than September, and better in August, so that it may get good root hold before frost.

2. Grass seeded for a lawn should be sown in August or September, and the land should be well prepared and made as fine and rich as possible with barnyard manure and bone meal before seeding. Sow at least two bushels of seed per acre. The best varieties to seed for this purpose under shade of trees are Wood Meadow Grass, Virginia Blue Grass and Perennial Rye Grass.—Ed.

Fumigating Stable and Barn.

I have thought of fumigating my stable and barn by burning sulphur in it, but as I have a lot of fodder and hay stored in the loft, I want to ask you if the fumes would ruin the feed? F. C. L.

Albemarle Co., Va.

No; we don't think the fumes would in any way injure the feed. It would, no doubt, make it smell for a time, but this would pass off.—Ed.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

The fine, open weather we have had during November has permitted of the planting out of large areas of cabbages for the spring crop, and these are now making quite as much growth as is desirable. When cabbage plants become too much grown in the early winter they rarely winter well. They should just get good root hold of the ground ahead of the frost and then they are ready to grow right away when the spring opens. Where the work of planting the cabbages has not been completed it should be pushed on at once to completion or frost may largely delay it and cause a late crop, which never sells well. Do not spare the manure or fertilizer. Make the land rich and work it well. In our last issue will be found advice as to the fertilizer to use in addition to manure.

Lettuce plants should be set out in the cold frames as fast as the plants are ready. Never set lettuce plants in the old soil of the frames, as it is very likely to cause rot. Fill them with new compost, clean, friable and rich in plant food. Where the plants are already set out they should have plenty of air given all fine days, but be kept covered at night, and mats and straw should be handy to cover the frames in case of severe frost.

Provision should be made for protecting cabbage and lettuce plants in the seed bed in the event of severe frost. Pine branches put around the beds and in amongst the plants and a little straw thrown over these is usually sufficient in this latitude to save them from serious injury.

In Tidewater and Southside Middle Virginia and Eastern and Middle North Carolina Irish potatoes may be planted in this month for a very early crop. This crop requires special planting. The rows should be opened very deep, and the bottom of the rows be broken loose with the cultivator and a good potato fertilizer be mixed with the soil. The sets should then be dropped in and be covered with a light covering of soil, and this be covered with a thick coat of manure, and then soil be plowed on to this in a ridge over the potatoes. This ridge should be harrowed down in the early spring.

ONIONS FROM SETS AND SEEDS.

Editor Southern Planter:

To-day (October 10th) I am planting my last lot of onion sets. A few of the Early Queen sets were planted in September. These we are now setting are the Yellow Potato onion. These will give us green bunching onions nearly as early as the Queen, and they differ from the sets grown from seed in that they will make a good, mature onion if not sold green, while the sets raised from seed are very apt to run to seed and become worthless. There is still plenty of time for planting the Potato onion. It is quite hardy, and winters well. We set them in shallow furrows, and then throw two light furrows over them so as to form a ridge. This is for winter protection. In the early spring this ridge is pulled away, leaving the onions to bulb nearly on top of the ground. They will go into bunches as soon as about the size of one's thumb. The soil where we are setting these onions is a strong clayey loam, and not the best soil for onions if we could do better, for we would prefer a sandy loam for this crop. The potato onion is the only one we grow mature onions from for the use of sets. It multiplies at the base and makes no seed, and therefore must be grown from sets. For a ripe crop of other onions we always use the seed in the spring. The potato onion makes the earliest mature onion on the market, but as it is not a good keeper it must be sold before the northern seed crop onions come in. The piece of land we are setting to potato onions is as we have said a strong clay loam. The onion, like all other bulbs, is fond of potash, and in order to do its best must have an abundance of this material at hand. Happening to have a lot of tobacco dust, which is rich in potash, we have given the onion land a dressing at rate of about a ton per acre. In addition to this the furrows get about 500 pounds per acre of a mixture made up of 900 pounds of acid phosphate, 700 pounds of cotton seed meal and 400 pounds of muriate of potash to make a ton. This is our general formula for garden vegetables, and we have not yet found anything in the shape of a commercial fertilizer equal to it. We have found the same well adapted to the tobacco crop by changing cotton seed meal to dried blood and the muriate of potash to the high grade sulphate. But for growing a crop of onions to market in a cured state we would never use the sets. It was formerly the notion that good onions could not be produced in the South in

one season from seed, but that it was necessary to use the sets. This is altogether a mistake, for we can grow as good ripe onions in the South from the seed the first season as can be grown anywhere. The difficulty heretofore has been that the growers followed too closely the Northern methods and sowed the seed too late so that they ripened into sets instead of onions. Given a good warm sandy loam and about 1,200 pounds per acre of the fertilizers mentioned above and the seed sown as early as the ground can be gotten into good order, and the plants well thinned and properly cultivated, we can grow as fine crops of onions in the South as can be grown elsewhere. In all the coastal plan in the South Atlantic slope there are thousands of acres of black, peaty soils that have been reclaimed from the great swamps which, when well underdrained, will make the finest of onion land, and there are few market garden crops that will prove more profitable.

To grow onion sets from seed, select a piece of warm, sandy soil of fair fertility, and sow in April, without fertilizing, at rate of about 60 pounds of seed per acre. In fact, fill the shallow furrows marked out with a garden plow one-third full of the seed, so that the young bulbs will be badly crowded and kept small. These are ripe in July, and should be stored with their dry tops on, as any onion will keep better with the top left on. Clean out and plant these sets from September to last of October for early green bunching onions only. The best variety for this purpose is the Queen, sometimes called the Pearl. This is a very early bunching onion, and we frequently have them ready for market late in February. They must all be used or sold before the last of April, as they rapidly run to seed and become worthless as the weather gets warm, while the potato onion makes a fully matured crop. Home grown sets are better than those from the North, as they ripen earlier in the summer and start earlier in the fall.

W. F. MASSEY.

RANDOM THOUGHTS.

Editor Southern Planter:

Before another issue of the PLANTER appears one more mile post will be past, one more harvest season will have come and gone. How much better off are we? How much effort have we put forth? How much have we learned during the year? Balance accounts now and try to settle up with the world. The year has not been a good one for the Virginia orchardists, while the "general" farmer has been more

successful. All have had some success, for which we should be thankful, and all have made some failures, from which we should learn important lessons.

After settling up with the old year, plans should be made at once for the new one, while lessons learned from the old are fresh in our minds. After finishing an Agricultural College Course, teaching in a college, conducting scientific investigations along Horticultural, Entomological and Mycological lines, and then returning to my farm three years ago for renewal of boyhood strength and energy, I find that my brain capacity has never been taxed more than it is on the farm. Young men, you have a lesson to learn. Start to the Agricultural College at the opening of the term first of next January to make preparation for your life work. Brain work pays far better than muscle work.

There are tools on the farm that need repairs. There are buildings to be repaired, orchards to prune and clean up, and spraying machinery to put in order. All these things we can do while the winter winds sweep across the fields. But the rush of farm work is over, and the farmer will spend much time with the family around the hearthstone or heater. In the afternoon late the children will come home from school with their books, slates and pencils. Will the father help them with their hard examples and difficult lessons? This is the most important crop that grows on the farm, and should have the best of attention. The farmer himself might spend valuable time in reading the Farmers' bulletins issued by the United States Department of Agriculture or by taking some Farmers' reading course, such as that issued by Cornell University. His mind development is his bank account. Mind training can be turned into money, and it saves money. If we do not read during the winter months the year is apt to pass by and leave us with but little mental improvement. The growing season is too inviting for us to be among the stock, in the meadows, grain fields and orchards for us to sit down and be contented with a book. Now all is changed, and let us "have school" at home.

R. H. PRICE.

Montgomery Co., Va.

RESULTS WITH JAPAN PLUM ORCHARD IN CONNECTICUT.

Editor Southern Planter:

I promised to give results of my 1,425 Japanese plum orchard, and here it is. The orchard covers five and one-half acres, the trees are set 12 feet apart

in true rows at right angles: 100 Red Junes, 725 Burbanks, 500 Abundance, and 100 Wickson's. The first year after setting they blossomed full, but were frost killed. The second year they blossomed full again and produced 500 large baskets. The third year the blossoms were full, and the trees produced 1,500 large baskets. The fourth year the blossoms were full, but frost cut all fruit off. The fifth year the blossoms were full and the trees produced 3,000 large baskets.

The plums, when allowed to fully ripen on the trees and sold in the home market, brought an average of about 45 cents per basket, but when picked greener, which is necessary for outside market, the net price was less, so that results were about as follows:

Total labor for the 3,000 baskets, fertilizers, etc.:	
Cost of fertilizers.....	\$ 50 00
Cost of sowing.....	3 00
Cost of cultivation.....	24 00
Cost of thinning plums.....	50 00
Cost of baskets and covers.....	125 00
Cost of picking plums.....	75 00
Cost of transportation, team, etc.....	48 00

Net receipts\$375 00

So far as I can see I came out square, the second and third year gave about the same results. I think if I had but 200 to 500 trees, just what I could handle myself with the aid of some light help, and the plums could be allowed to ripen more fully and with a home market, I could have done very well. The difficulty with my plums is they mature too quick. The Wickson's are the best in that respect; with them you have ten days to two weeks to handle the crop, but they are shy bearers. One has hardly a week with the Red June, Burbanks and Abundance, and a storm or two mixed in at that, as I had this year, limits the time. The only relief there was in the time of these plums was one week's difference in time of ripening, but for that I could not have handled half the crop.

Yours truly,
Higginson, Conn.

GEO. M. CLARK.

PICKING PEACHES.

Mr. R. H. PRICE, Blacksburg, Va.:

Dear Sir,—I have read with much interest your article in SOUTHERN PLANTER. Especially the one in the November number, in answer to M. B. Langhorn, Albemarle county, Va. I live near the Georgia line, and in what is now becoming a great peach

producing section. There are within six or seven miles of me thirteen peach orchards, all Elbertas, most of them bear this year for the first time, and for lack of knowledge, as how to handle the peaches, many of them did not get much out of their orchards. Let the peaches get too ripe and then hauled to depot in road wagons. There are several nurseries here, where Elberta peach trees, June buds, can be bought for \$3 per hundred.

Yours truly,

Chickland, Tenn.

HENRY D. AYRE.

I am very glad to get your letter, stating that the Elberta has borne well in your section of Tennessee, which is just as I expected. We are going to fruit it successfully on the dry, rolling, sandy loam soils of Virginia also, so that when your crop is gone we will follow with solid train loads from Virginia and further up in Tennessee.

The fact that June budded trees can be purchased so low as three cents a piece by the hundred, in your locality, will be a revelation to many of our growers, who are used to paying from ten to fifteen cents per tree. If these small trees are managed carefully next spring so as to get the "crown" properly started, I like them quite well, but most of our growers erroneously suppose that the largest trees are the best.

I am not at all surprised that your orchardists made failures in their first shipments by letting the peaches get too ripe. That is the usual result of the efforts of beginners. When shipping peaches myself while Horticulturist of an Experiment Station, I sent trial packages of my peaches in different degrees of ripeness to my commission house and asked them which packages they preferred. After getting this information, I had no further trouble with each variety, and my shipments took the lead in that market. It takes considerable experience to enable one to gather peaches rapidly with the uniform degree of ripeness to enable them to carry successfully one hundred or five hundred miles. Nearly always beginners let the fruit ripen too much. One good way to teach pickers successfully is to let each one gather and fill a box or crate with fruit he thinks would go to market successfully and put this package away in a room the same length of time it would be on the road to market, then let each man open and examine his own package. The experienced picker knows at a glance the fruit that is ready to pick. When the skin has that peculiar creamy white appearance, before any softness has set in, the fruit is ready to be picked for shipment. During very warm bright days the fruit should be less ripe than on rather damp, cloudy and cool days.

Elberta colors early, is an excellent shipper, and has a very attractive appearance, especially when grown on light, sandy soils. It is "a thoroughbred" among peaches. But I must state that I cannot recommend its table quality as being first class. As a yellow canning peach, it ranks high. Your growers should put up small canning factories for emergencies next season.

Come again.

R. H. PRICE.

FALL CROPS IN THE NORFOLK, VA., TRUCKING BELT.

Editor Southern Planter:

The fall crops of peas and beans have been shipped to Northern markets. The great trucking belt around Norfolk, Va., is now showing up green and luxuriant with the growing crops of kale and spinach.

The advance line, or skirmish line, of these great crops is now invading Northern markets, and quite large quantities of these crops are being sent North, thus early in the season. This shows two things—namely, it shows that the Northern green crops have all been cut off by Jack frost; and it also shows that the Sunny South is ready to supply all deficiency in the line of "garden sass."

The kale and spinach crop is unusually large in area, and is in most excellent condition. The prices are fair, and the shipping of these crops is beginning earlier than usual, and the prospect for profit is good.

The kale and spinach crop combined is good for five hundred thousand barrels, possibly six hundred thousand. The price received for kale in Northern markets varies from seventy-five cents to \$2 per barrel. Spinach, from \$1 to \$7 per barrel.

Kale yields all the way from 150 to 300 barrels per acre, sometimes more. Spinach from 100 to 250 barrels. These crops are cleared off in time for two more truck crops within the limits of a year—three crops per annum from the same soil.

Cabbages by the millions of plants are being set out in the open air, where they will take root and grow slowly all winter, and thus be ready for market next April and May.

Lettuce by the acre is also being transplanted. The two crops last mentioned are set out in the open air away up to the first of January. The near by presence of the "Gulf Stream," which slowly rolls along our coast, with its steady temperature of seventy degrees the year through, keeps off killing, damaging frosts, so that green stuff in the open air, such

as kale, cabbage, spinach and lettuce, etc., comes through the short, mild winter uninjured by frost.

The prospect for our farmers and truckers with regard to their fall crops of kale, spinach and lettuce is very good indeed. The area of these crops is large, the stand excellent, the growth very satisfactory, and the prospect for a good price and yield is very good indeed.

The weather is very pleasant, just bracing enough to be agreeable and still warm enough to be comfortable without any extra wraps, overcoats or heavy underwear. Light, wood fires are needed to take off the chill, but still everything in the ground is growing, and yet we have but very little evidence of winter. The tenderest vegetables, such as sweet potato vines, tomato vines, beans, etc., are nipped by frost, but yesterday we saw a large crop of peas where the vines were looking just as green as they look in April and May.

A. JEFFERS.

Norfolk, Va., November, 1904.

TRUCKING.

Editor Southern Planter:

Do not make the mistake of starting into the business of truck raising before you are ready. By so doing you simply invite defeat and a disastrous and expensive failure is, in the very nature of things, bound to be the result.

There are at least three *essentials*, the absence of any of which will pretty effectually militate against any possible profit from either market gardening or truck farming. These are:

1st. A sure and remunerative market for the products when raised.

2d. A thorough knowledge of the soil and its adaptability to the vegetables to be grown thereon, and an equally intimate knowledge of the plants intended to be cultivated, together with their cultural and plant requirements; and

3rd. Rich land.

It is a waste of time to attempt the utterly impossible feat of raising profitable crops of tender, succulent vegetables on any but the very richest of land. No matter how fertile the land may seem to be, good truck crops can only be grown thereon by high manuring. While in ordinary grain or cotton or tobacco farming one can by a judicious rotation and by the free use of leguminous crops, get along without the purchase of nitrogenous fertilizers, the market gardener must be lavish with his fertilizers, both nitrogenous, phosphatic and potassic. Nitrogen

forces early growth and gives large succulent leaves and stems, potash gives solidity and crispness, and increases the sugar and starchy parts of seeds, phosphoric acid tends more especially to develop the seeds of plants, hence the chief ingredient in a good fertilizer for vegetables of which the leaves or stems are the edible portion, is nitrogen.

For root vegetables, phosphoric acid and potash are fully as important as nitrogen. For vegetables of which the seed is the edible portion, like the garden pea, for instance, phosphoric acid is the leading element. For vegetables like the tomato, potato, egg plant, celery, melons, etc., potash is the most important.

Nitrate of soda is the best form of nitrogen, and the sulphate is the best available form of potash for garden vegetables of all kinds; cotton seed meal, as a source of nitrogen and the muriate as a source of potash, being next; kainit is altogether out of place in the garden or truck farm. Potash salts are just the thing for truck farming. The cheaper muriate of potash gives equally as good results on cabbages and beets as the more expensive sulphate, but the latter appears to be superior to the muriate in increasing the yield of tomatoes, spinach, lettuce and onions. For vegetables the controlling elements are potash and nitrogen, and very few of the brands of mixed fertilizers have as high a percentage of potash as most truck crops require. It is known on all sides that potatoes are dear lovers of potash, but it does not appear to be so generally known that the cabbage crop is also a potash eater; turnips come next, and cauliflower third, in their demand for potash, hence if a heavy yield of either is desired, they must be planted on soil that already has plenty of potash in it, or plenty of it must be applied.

No soil is naturally so strong that many good crops of vegetables can be raised in succession thereon, except potash be added just as often and just as liberally as nitrogen.

We have this much to say about potash for the reason that to our certain knowledge many market gardeners limit themselves exclusively to manure obtained from city stables, and stable manure, let it be ever so good, is not a properly balanced fertilizer for vegetables, and cannot bring best results. A good general fertilizer for all garden vegetables would be:

Acid phosphate.....150 to 225 lbs.
Sulphate of potash...250 to 375 lbs.
Nitrate of soda.....150 to 225 lbs.

Mix the phosphate and potash and apply previous

to planting; apply the nitrate beside and around the plants after crop is up.

If the ground is well supplied with humus above amounts may be doubled or trebled with manifest advantage. In all cases, we most decidedly prefer to apply broadcast, and by thorough preparation, thoroughly incorporate the fertilizer with the soil. This done when drouth sets in wherever the application was heaviest there the crop will be the greenest, let the crop be what it may.

As muriate of potash and cotton seed meal are preferred by some, we subjoin the following mixture:

Acid phosphate.....300 lbs.
Nitrate of soda.....300 lbs.
Cotton seed meal.....750 lbs.
Muriate of potash.....250 lbs.

Mix for one ton and apply from 1,000 to 2,000 pounds per acre.

For potatoes, leave out 150 pounds nitrate of soda, and add 150 pounds more of the muriate.

G. H. TURNER.

Keeping Cabbage for Winter Use.

I have about 3,900 cabbage just heading, and I write for advice about proteetieg them. Should they be taken up and trenched before thoroughly headed? How long can I leave them in the field now? When taken up would they keep in a barn? Advise how to arrange them.

M. NELSON.

Halifax Co., Va.

Let the cabbage stand until they are headed, if the frost will keep off long enough. In your section they will keep over the winter unless it be a very severe one, if they are then heeled over with the heads to the north and a furrow be then plowed on to the stalks up to the heads. In case the winter should prove a hard one it may be well to store part of the crop in a pie or heap made as follows: Pull up the cabbages by the roots and selecting a piece of high, dry ground, place the cabbages with the heads on the ground and stalks up in a row, say four feet wide. Make this first layer as long as you think will be required to pie the whole. Then place a second row of heads between the stalks of the first row, and continue this by adding further rows until the pie is brought up to a conical shape, say three or four feet high. Then cover the whole pie with straw a few inches thick and finish off with a layer of corn stalks laid so as to throw the water off.—Ed.

When corresponding with advertisers, kindly mention the SOUTHERN PLANTER.

Live Stock and Dairy.

THE BUTTER SUPPLY OF SOUTHERN MARKETS.

In this issue will be found an article by Prof. Soule, of the Virginia Experiment Station, on Farm Butter Making, to which we invite attention. There is a great opening for good home-made butter in the South, but it must be good. The supply for all the high class trade in all the Southern cities comes at present from the New York and Elgin dairies, which ship thousands of pounds of butter every week into the South. In this city alone the sale of these New York and Elgin butters amounts to hundreds of pounds of butter every week. A few years ago we made an investigation into this matter on behalf of the Department of Agriculture, and were surprised to find how completely the Northern and Elgin dairies had control of the best trade of the city, and practically of very much of the second class trade. There is a small supply coming from the Western and Southwestern parts of the State and from West Virginia, but this does not begin to compete with the Northern supply. Of nearby made butter there is practically none on the market. Some few farmers bring a small supply in every week to private customers, but even this is a very small item. There is no reason whatever why the large demand for butter in the South (and Southern people are great butter eaters), should not be met by Southern farmers and thus thousands of dollars be kept at home. The only thing standing in the way is the fact that practically at present no good butter is made in the South. What is made is also not put on the market in an attractive form. If farmers will take note of Prof. Soule's advice these defects can soon be altered, and that with great profit to farmers.

IMPORTED HOGS FOR VIRGINIA.

In our last issue we published a communication from Mr. Westmoreland Davis, of Morven Park, Leesburg, in which he announced an importation of White Yorkshire hogs. He now writes us that he has made a second importation, which is thus referred to in the Live Stock Journal of England:

"Three of the best large white sows from Mr. Arthur Hiscock's sale at Motcombe, including the grand pair of gilts that won first prize as a pair at the Devon County Show, were shipped to-day (Friday) on the SS. Ulsterman at Liverpool. They go to Mr. Westmoreland Davis, in Virginia, who is establishing a herd there. Some choice specimens from Mr.

Sanders Spencer's herd were also forwarded some weeks ago."

FARM BUTTER MAKING.

Editor Southern Planter:

One who has had an opportunity to travel over the rural districts must certainly have been impressed by the fact that only a very few persons understand how to make good butter. Even in the best agricultural communities where farm papers and magazines can be found on the library table, where the land owners live in comparative luxury, the butter is one of the least satisfactory condiments found on the table. It is hardly an exaggeration to say that in twenty-five consecutive farm homes which might be visited, twenty-five different kinds of butter would be found, varying marvellously in color, quality and flavor. In some cases the butter will consist largely of a sour, cheesy curd, which has been incorporated with the fat globules through improper churning. In other cases, it will be positively rancid, while possibly in only four or five instances out of the twenty-five will it be at all palatable. There are those who may think this is stating the case extremely, but such at least are the facts gathered as the result of some years' of experience in Farmers' institute work which has brought the writer in contact with hundreds of farm homes. Strange to say, in practically all instances, the people believe their butter to be good and wholesome. In other words, they do not appreciate what good butter is, nor do they have any ideals in regard to its manufacture and production.

Of course the great success of the American dairy is due largely to the development of our factory and creamery system. Were it not for this, it is doubtful if we would ever have made much progress along dairy lines, though there is certainly every opportunity for persons who thoroughly acquaint themselves with the proper methods of making and handling butter. On the score of education and lack of facilities for the work, no excuse is available for the inferior quality of butter made on the average farm. There are hundreds of dairy schools turning out a corps of graduates each year, which one would suppose would disseminate information very largely through the communities to which they return. Prejudice, however, seems to be stronger than education, and remarkable as it may seem, it very often happens that the people of the community consider

their own butter of superior quality to that made by the educated and trained dairy school butter maker. Let this be as it may, it still does not solve the problem, nor does it explain why our farmers persist in making an inferior quality of butter from cows well bred and cared for, kept in excellent stables, and fed and nourished on clean, excellent food. It also seems very strange that when there is a splendid market for butter of high quality, that the majority of farmers should say there is no money in butter making, and that they do not find dairying a profitable industry. This does not apply to the great majority of dairy farmers, but there are still thousands and thousands of men who keep a few cows, and who should make at least fifty dollars per cow, net profit on butter, judging from the market prices prevailing at the towns near which they reside. Here is one of the leaks on the farm that could be stopped. The average cow is not credited with what she does, because the owner fails to handle her product in the best manner, and so does not obtain a fair remuneration for it. Under such conditions the dairy cows ought to combine and form a trust for their own protection. They have been a long suffering and much maligned class of animals in some communities, where the fault has not been theirs.

Admitting these facts, it now seems proper to inquire if good butter can be made on the average farm at a profit? It certainly can be if modern methods are followed. It will take but little more care and effort to make a first class quality of butter where now a very indifferent article is produced. What sense or use is there in spending days of labor and effort in feeding and caring for dairy cows, in handling and skimming milk, and in churning to make a pound of butter worth ten cents, when it might just as well bring twenty-five or even thirty cents? Yet the writer knows of dozens of instances where this thing is done over and over again, and followed up year in and year out. On visiting country towns and inquiring for good butter, it is, as a rule, twenty-five or thirty cents a pounds; in making inquiries at the farmers' homes, it is, as a rule, reported to be worth ten or fifteen cents per pound. Yet there is hardly a community throughout the South in particular, which the writer has visited during recent years, where the dealers have not said that they were unable to obtain a sufficient amount of satisfactory butter to supply the home trade.

With good barns, good feed, and cows well cared for, the making of butter could become a comparatively simple process. All that is needed is to keep

the stables clean, brush the cows down well, wipe off the udders, and use thoroughly sanitary milk pails with covers and strainers in the side. Aerate the milk in a room built and maintained especially for that purpose, connected with the stable, but closed off from it, and then keep the milk cool in deep cans until the proper degree of acidity has developed in the cream. It is then a comparatively simple matter to skim off the cream and churn it in a granular form, and produce a butter sweet and rich in flavor, and with excellent keeping qualities. It is hardly worth while to ask the question as to whether good butter can be made on the farm or not. The answer is certainly yes, and it will require but comparatively little more effort and skill than is required now to make an inferior quality.

The chief trouble in the manufacture of farm butter is the fact that the milk is produced in stables that are unsanitary. It will take comparatively little effort to clean the stables every day, whitewash them once or twice a year, spray them with a little disinfectant occasionally, and brush off the cows so as to keep them free from manure and filth. Then, if the milkers have clean hands, and the milk is quickly drawn and conveyed to the aerating room, and either separated or placed in deep cans, it will be in good condition. In sections where the weather is cold enough, ice should be stored for the summer; in other sections, artificial ice can be purchased for a reasonable cost, while springs can often be utilized economically and to the best advantage. After the milk is drawn, it is essential that it be handled skillfully. One great trouble on the average farm is the fact that it is kept in the cellar, which is closed up so as to prevent the circulation of air and light, and it thus becomes musty and close. Milk or cream kept here will generally have a close, musty, and often a cheesy flavor. It is impossible to make good butter under such conditions. This difficulty could be obviated simply by using a deep setting tank for the milk or cream, as the case may be, and thoroughly scrubbing and disinfecting the cellar occasionally, and opening it up at night so as to let the air circulate through it.

Another frequent cause of trouble to the housewife who attempts to make butter, is the fact that she persists in using old rags and cloths and utensils which are not properly cleansed and sterilized. Brushes should replace the old rags to commence with, and if a larger amount of hot water were used, which can be obtained quite simply in almost any house through the use of a water back on the range, there would be

less difficulty with various undesirable fermentations and putrefactions which develop in the cream and butter, causing the housewife no end of trouble and worry. Cleanliness is one of the things about the dairy that is very often not fully appreciated. This is due in part to the insidious nature of germ growths, whose pernicious qualities are not fully appreciated. Good brushes, plenty of sal soda, a little sapollo, more hot water and elbow grease, and the chief troubles of the farm butter maker will disappear as if by magic. Thus there is no reason why, with the exercise of a little more care and discretion, a first class quality of butter should not be made on the average farm.

How this good butter can be made has been indicated to a certain extent, though in many places the equipment used is out of date and unsatisfactory. Separators cost so little now, that where a few cows are kept, as they should be on every farm, one should be purchased and used. It need not cost over \$75 for a small herd, and it is easy to handle and cleanse, and light to run. The machine gives a perfect separation of the milk, and thus saves more than its cost in a year. After being run through the separator the milk is in the very best condition for utilization on the farm in the feeding of calves, pigs and poultry. The cream is reduced to a small bulk, has been aerated and cleansed by passing through the separator, and is in the best condition to ripen. After it has been ripened the churning is an important matter. The churn and butter worker should first be thoroughly scalded and then rinsed out with cold water. After the cream is placed in the churn, the color should be added if it is necessary. The churning should proceed slowly and uniformly from twenty to thirty minutes, when the butter should have broken in a granular form, and possessing a rich, aromatic and slightly acid flavor. Immediately after it breaks, some cold water should be added to chill it, then it should be taken out and placed on the worker and allowed to drain. The washing with water removes the particles of curd. If the butter were churned beyond the granular form, a certain amount of milk would be incorporated, which would greatly hasten decomposition and cause the butter to go off flavor and become rancid. After the butter is carefully worked so as to thoroughly distribute the salt and prevent mottled butter, it should be made up in nice, uniform packages, wrapped in parchment paper and stored in the coolest place available, so as to keep it firm. Then when taken to market it should be placed in a basket or box remarkable for its clean and attractive appearance, and for the ab-

sence of the usual supply of rags and old newspapers, which so frequently accompany butter.

Under these conditions, butter of the sweetest and best quality can be made at a good profit, where it is now so often manufactured at a loss, providing a new source of revenue to the farmer without the expenditure of a large amount of capital or labor. All that is needed is a little better appreciation of the nature of germs and how to combat them, a little more care in the handling and churning of the cream, and in the packing and marketing of the butter. All the necessary effort and labor is now being performed in making butter, bringing ten to fifteen cents a pound. Can you afford to keep cows and handle them on this basis? Is that other ten or fifteen cents a pound, which represents your profit, and should amount to \$75 per cow per annum, worth going after?

ANDREW M. SOULE.

Virginia Experiment Station.

DUROC JERSEY HOGS.

Editor Southern Planter:

I notice one of your correspondents asks the characteristics of the Duroc hog. I have kept Poland-Chinas, Berkshires and Durocs. As you say, the Berkshire is hard to beat. But still I think that for healthiness, docility and general utility the Duroc is the coming hog. With other breeds I have always had some crushed pigs occasionally, but the Duroc is such a quiet, motherly sow that I have had no such trouble with them. The boars are easily handled, and though active in breeding show little inclination to roam. They seem to stand a changeable climate well, and fatten easily, and I think those who have had trouble with sows crushing or eating their young, or with nervous, fretful sows, will do well to try this breed. They are in color an attractive cherry, and the little pigs are beautifully even in size and color.

Orange Co., Va.

A. F. L.

THE BOWMONT FARM'S HERD OF JERSEYS.

The Jersey Bulletin thus speaks of this herd, which will be found advertised in this issue:

"The Bowmont Farm's Herd of Jerseys at Salem, Va., has reached the place where it can be called one of the very best in America. Indeed, it reached that place some time ago, and the results of Mr. Bowman's fine judgment in the work of building it up are apparent in the young stock coming on. Wherever they go they are giving satisfaction, and the owner feels well repaid for the outlay in foundation stock. Certainly the herd was built after a system that warranted the highest results."



FIRST PRIZE SHROPSHIRE BUCKS

at the English Royal Show, June, 1904. The five finest sheep shown in that year.

AMONG THE FLOCKS OF SCOTLAND.

Editor Southern Planter:

From my earliest boyhood I loved to hear stories about the faithful Scotch shepherds and those wonderful dogs before whose intelligence we must all bow in admiration. Bonnie Scotland was the one land I most desired to visit. You don't wonder, therefore, that my heart gave a bound when I first looked on its green fields just beyond the beautiful waters of the Tweed at Berwick. It was a glorious evening. I sped along in the slowly deepening twilight toward that choicest of all cities, Edinburgh, so well named, "the pride of Scotland." It might not be uninteresting to stop in my sheep stories to describe the scenes about Edinburgh, or to revive its historic and chivalric memories, but lack of space forbids.

With my face set towards the Grampian Hills, made famous in story by Scott's Lady of the Lake and Rob Roy, as well as by the gallant deeds of Robert Bruce and William Wallace, I was off for a tour through the country of the Highland cattle and the Black-faced Highland sheep. At Aberfoyle I left the train to take the country on foot and by

coach. As I walked over to the inn for breakfast, I saw a flock of very queer little sheep crowding forward over Rob Roy's bridge, which was only a few steps from the inn. These little sheep all had horns, black-and-white faces, long fleeces almost sweeping the ground. They all looked so much alike and seemed so strange that I noticed them closely. When I saw their faces at close range, I remembered a much prized picture that hangs in the hall at Edgewood, a picture that was given me as a boy at school, because I did not miss a day and was not tardy during a whole session in our little country school. The picture was indeed a prize to a boy who loved sheep and collie dogs. It was a cheap chromo, but to my boyish fancy it was the most beautiful picture ever painted. It showed two ewes and two Collie dogs lying near with their faithful eyes resting fondly on their charges. It was entitled, "On Guard." I always thought those were queer looking sheep. I now know that they were Black-faced Highland ewes. A black Collie was handling this bunch of Highland sheep with remarkable skill. The shepherd had gone on to get his drink of ale and had left his "faithful

tyke" to work this flock of sheep through the little village. I was soon among the heather on these Scottish hills, and found these sheep scattered everywhere. You could not go a hundred yards without running upon a small bunch of these little sheep. They do not run in flocks at all. Often two sheep will be found off to themselves. Occasionally a ewe has no other company than her lamb. They are thus more like goats than sheep in their habits. I soon noticed that some of the sheep were sheared and some not. A little closer observation showed that every ewe that had a lamb had her fleece. It occurred to me that these ewes would lamb out on these bleak hills and even up to July the nights are very cool. These great fleeces would screen the little lambs from the chilling winds. I should say that no hardier breed of sheep lives than these Blackfaces. They never know shelter, except such as the protected side of the hills could afford. How they pass through the heavy snows of the winter is a wonder to me. Were it not for Collie dogs I do not see how these sheep could be managed at all, as they roam at will among the hills. I found them on the very top of Ben Venue, a lofty mountain. Every shepherd you meet has a Collie walking at his heels, and this Collie is a very knowing companion. He understands every word and gesture of his master, and the shepherd talks to him as he would to his closest friend. He feels, at least, that his dog understands, so the companionship is just as close as if he did. A gentleman told me an interesting incident about his Scotch shepherd. One day he was standing by a hedge, when his shepherd approached from the opposite side with his dog at his heels. He was talking aloud finding fault with some of the sheep, a thing he would have considered most disloyal to his master, if he had thought any one was hearing him. He suddenly stopped, and, turning to his dog, exclaimed: "Shame on yir! Go on! Ain't I bin telling yir ye are allus busy listenin'?" Fine testimony to his faithful service. He would not share the secrets of his business with his best friend, his faithful dog.

The Blackfaces have coarse hairy fleeces not exceeding four pounds, and they are too small to make a general purpose sheep, but the flavor of their meat is unexcelled save by that of the Welsh mountain sheep. Blackface mutton is the choicest dish in all that country, and I can testify that it is hard to beat. It brings a special price on the market.

I was also much interested in the Highland cattle. These were just as rough and woolly as I had pictured them. They seemed to roam over these hills

as wild cattle, and are too much like the American bison to please me. The bulls have enormous horns, sometimes expanding four feet and the hair on the crest often reaches down to the nostrils. I am inclined to think that it will take much improvement to make a great breed of them. They are not the only Scotch cattle that can furnish Buffalo robes. The Galloways are natives of Scotland.

A week later I was in Melrose in that lovely valley beside the gentle Tweed, under the shadows of the Hills of Eildon, which overlook the home of Walter Scott. I was off on my bicycle to see the flocks of that charming bit of Scotland. Every flock I saw during my day's journey was a flock of Cheviots.

This country, you remember, lies at the foot of the Cheviot hills, which have been the home of this handsome breed for over a century. How beautiful these Cheviots were! Their snow-white faces, their bright eyes, their long fleeces, their strong shoulders, their proud carriage make them at once the most attractive of all sheep to look at. They have little wool on the legs and none on the heads. They are bald-headed. They seem to be as kind in disposition as the jolly-bald-headed man. About Melrose these sheep are handled in small flocks much as we handle sheep in this country. In order to see the Cheviots in their native haunts, I went right into the heart of the Cheviot Hills. From New Castleton, the home of Walter Scott's hero, Dandie Dinmont, I strolled across the country admiring the picturesque country, which is so different from anything I had expected. These Cheviot Hills are not rugged and rough and covered with Scotch heather, but they are carpeted with the most luxuriant grass, and are absolutely treeless. When I had climbed to the top of Home Hill I could look across the rolling hills lying under the purple haze of the distance and see a country given up almost entirely to the raising of Cheviots. It is an ideal sheep country, with the exception of the moors that are found on the flat tops of these hills, which become in wet seasons the breeding places of the liver fluke, foot-rot and many other diseases. I came to an old shepherd's home on the far side of Home Hill close by a tiny little burn, whose rippling waters so clearly reflected the green of the hills that it has been called Green Burn. I was given a Scotch welcome, which means more than I can tell. As I ate the scones and cheese and drank the fresh milk that was set before me the old shepherd told of his sheep and dogs in language that was too much for me. He told me that he had charge of three thousand sheep on those hills, that he kept them in small flocks,

that he had them sleep in a fresh place every night, that he had no shelter for them in winter, that he gave them only roots in winter, leaving them to get their roughness from the heather and the matted grass of the hills. When I saw no fences on those hills I asked how he ever got them in small flocks and then how he kept them so. He pointed to his dog, and said she understood the parts of the range where each flock belonged, and she kept close watch of each flock. When I wanted to photograph a flock of Cheviots he waved Meg off to a flock a half mile distant, and she had the sheep herded on the side of the hill where he had pointed in a few minutes.

Here was a flock of native Cheviots in their own environment. They were rather small and coarse in fleece, but they looked hardy and strong. The lambs were very small for June, but I was told that it was found best to lamb the ewes in April and May, as the loss of lambs was very great in the early months. It was interesting to see so many sheep pastured on these hills, and to remember that they had been pastured

here for years. I at once thought of diseases. I found that they are beginning to have their troubles. This old shepherd had never heard of stomach worms, but he described cases that were alarmingly familiar to me. Liver fluke and louping ill were increasing year by year. Only their painstaking management saves them from serious trouble.

When I left the shepherd's cottage, the old man insisted upon going with me part of the way. When we got in sight of the village, he parted company with me, and as I handed him a shilling for the "old wumman," he shook his head and rebuked me with words that still ring in my ears: "It dus oor herts gude to feed and hoose a stranger." These Scotch people are a noble people, honest, kind-hearted, and faithful to every trust. They have written their names high on the scroll of worldly fame. It is a pleasure to meet them face to face and to reflect upon the sturdy elements of character that have made them a great people.

H. B. ARBUCKLE.

Marwellton, W. Va.



BLOOD WILL TELL.

Editor Southern Planter:

While at the Royal this summer I made a point to study the effect of breeding as evidenced by this wonderful show. I studied my catalogue carefully and asked many questions of the breeders. I found that half the prize winners in one breed of sheep owed their quality to one ram. I found that in both the Shorthorn and Hereford classes that there were two or three outstanding sires. In one case among the Herefords I was looking at a champion bull, and glancing at the catalogue I found he had a full sister

in the show. I went to her stall and found the red ribbon tied to her head also.

This fact was especially noticeable in the Red Poll breed, the dual purpose breed that is becoming more and more popular in our country. Three bulls were the sires of practically all the winners in that large show of the breed. The two greatest bulls that have ever been known in the breed are possibly Rufus and Majiolini. I am almost willing to believe that these two bulls have done most for the making of the breed. Both were great show bulls. Majiolini was a Royal winner over and over again. I think he holds an

unbroken record. This old bull still lives, and it gave me pleasure to see him at his new home. The thing that caught my attention was that the champion cow and the champion animal of the breed at the Royal this year was sired by Majiolini. He was the sire of two other females, and both were prize winners. The three were pronounced by some the three prettiest females in the show. It gives me pleasure to present their photograph, though it does not do them justice. You can see they are as like as three peas. What a testimony to the value of blood in breeding. Blood will tell. H. B. ARBUCKLE.

Marxellon, W. Va.

BUYING CONCENTRATES FOR DAIRY COWS.

At this season of the year the question of buying feed for the winter is always an important one. Three things to be taken into consideration are—first, cost; second, total digestible matter; third, general effect upon the animal. In some cases a fourth point should be considered—viz., the amount of digestible protein.

If all feeds were of equal feeding value the farmer would naturally buy the one which could be obtained at the lowest price per ton. But since some contain a much larger amount of indigestible matter than others, and since this is practically useless to the animal, a more rational basis of price or valuation would be upon the total digestible matter contained. This is, however, impossible to determine by external appearance or even by a simple chemical analysis. Fortunately most of the common feeds have been studied sufficiently to enable us to know approximately the amount of digestible matter which they contain. The following table shows the cost of one pound of digestible matter in the different feed stuffs mentioned, if bought at the prices indicated, which are the prevailing prices at the present time in central Pennsylvania:

COST OF ONE POUND OF DIGESTIBLE MATTER IN SOME COMMON FEED STUFFS AT THE PRICES GIVEN.

Feed.	Price per Ton	Cost of Digestible matter per pound.
Wheat bran.....	\$23.00	2.00 cents.
*Corn (shelled)	21.43	1.31 cents.
|Corn and cob meal....	19.14	1.35 cents.
Gluten Feed	22.60	1.45 cents.
Cottonseed meal	25.75	1.59 cents.
Linseed meal old process.	27.50	1.77 cents.
Malt sprouts	19.00	1.61 cents.
Dried distillers' grains..	25.00	1.45 cents.

* 60c. per bushel.

| 60c. per bushel for corn on the ear plus 7c. for grinding.

It will be seen from this table that the cost of one pound of digestible matter varies greatly in these dif-

ferent materials at the present market prices. The farmer should buy those feeds in which he can get the largest amount of digestible matter for his money. At the present price wheat bran is about our most expensive feed. It is believed that the feeding value of wheat bran has been somewhat overestimated in many cases, and that the present market price is unwarranted by its feeding value. It is seen that linseed meal is also a comparatively expensive food. It should be the aim of the feeder to substitute some of the cheaper products for the expensive ones whenever practicable. As the table shows, the different corn products, that is, gluten feed, dried distillers grains, shelled corn, and corn-and-cob meal, are about the least expensive at present prices.

Corn will probably remain the basis of most rations, as it should, but when it is fed with corn silage and timothy hay or corn stover it usually becomes necessary to buy some feed rich in protein. Cottonseed meal is the richest of our common feeds in this respect. Bran is often bought for this purpose, but as a matter of fact its percentage of digestible protein is not very high, while the large amount of indigestible matter which it contains, as already noted, renders it a costly feed. Gluten feed and dried distillers grains, such as "Biles XXXX," and "Ajax Flakes," contain much more digestible protein than wheat bran and cost much less per pound of digestible matter. The valuation of a feed stuff based upon protein alone would be altogether misleading. It is much safer to base the valuation upon the total amount of digestible matter and then choose among the cheaper, some one rich in protein.

If clover or alfalfa hay (or cow pea or soy bean hay.—Ed.) is fed the protein supply becomes less important. The amount of protein required for a dairy cow is not accurately known at present. She certainly should have enough to maintain her body and produce the protein of the milk.

The effect of the different feeds upon the health of the animal must, of course, be taken into consideration. In this respect there is nothing superior to wheat bran and linseed meal, but they are among our most costly feeds. Cottonseed meal, especially when fed heavily, may cause trouble if fed continuously for a long period. When fed with corn or other wholesome food there is no danger in feeding two or three pounds per day, and much larger amounts than these are fed by many persons, especially in the South. There is more danger in feeding cottonseed meal to hogs than to any other class of animals. In feeding dairy cows it might be well to take into consideration the fact that cottonseed meal produces a hard butter fat, whereas linseed meal and gluten feed produce a soft butter fat. During the summer months this would be of more importance than during the winter.

THOS. I. MAIRS.

Pennsylvania Experiment Station.

The Poultry Yard.

ARE YOUR POULTRY HOUSES WARM AND FREE FROM DRAFTS.

This is a question to which it will pay every poultry keeper to give attention. The nights now are always cold. The days are often so, and both are likely to be colder. Hens will not lay well unless the houses are comfortably warm at night, and they are kept warm all day by plenty of exercise in scratching for their food. Drafts, above all other things, are fatal to good laying. Even if a house be cool if it is free from drafts the hens may be healthy and may lay moderately, but in a drafty house roup is sure to make its appearance, and when once this sets in laying will be over. At one of the Experiment Stations two houses built exactly alike of matched boards with shingle roof were erected. One of these was sheathed on the inside and this covered with paper. In each were placed 12 pullets, the flocks being as nearly alike as possible. The flocks were fed alike, having a morning mash of corn meal, middlings and ground oats, and at night whole grain scattered in the litter. Fresh water, grit and bone were placed where the hens could get them as they wished. The laying test of the two lots began 24th November, and was continued five months. The pullets in the warm sheathed house laid the first month 87 eggs, the second 130 eggs, the third 138 eggs, the fourth 120 eggs, the fifth 154 eggs. In the cold house the hens laid the first month 39 eggs, the second 106 eggs, the third 103 eggs, the fourth 124 eggs, the fifth 114 eggs. Totals, warm house, 629 eggs. Cold house, 496 eggs. A difference of 133 eggs. The value of this number of eggs in excess of those laid in the cold house would repay the cost of sheathing the house the first year. Make sure that you are not losing eggs by neglecting to have your houses warm and comfortable. Make the fowls keep themselves warm during the day by scratching for all the grain food they eat. Keep them dry whilst doing this.

CHICKEN CHATTER.

Never breed from a cowardly male.

Don't breed from a long-tailed bird.

The hen that will pay has a bright red comb.

The man who advertises is the man who sells his stock.

It generally takes eight weeks to grow a squab broiler.

April and May you will get the best price for broilers.

Don't breed from pullets when you desire strong chicks.

A year-old cock and a two-year old hen is an excellent mating.

Don't try to keep two breeds when you know how to raise only one.

Better kill that inferior stock than your reputation by trying to sell it.

Your laying pullets should be separated and fed to promote egg production.

Know the requirements of your market and then breed to those requirements.

If you pack fowls while still warm the skin will become very much discolored.

For the American market the yellow-skinned fowl has much the better sale.

Unless you wish to depreciate the value of your birds don't ship hens and cocks together.

A dressed bird should never have dark pin feathers in it, as it gives a dirty and unattractive appearance to it.

Patience first, then watchfulness, care and hard work is what makes the poultry industry a profitable investment.

Broilers that are out in the early part of December should be ready for market by the first part of February.

Have your poultry ready when the demand for it is greatest; it is "Johnnie on the Spot" who succeeds in this work.

It is claimed that equal parts of red pepper, alum, rosin and sulphur will cure chicken cholera. Feed a tablespoonful of this mixture in three pints of scalded meal every day.

ANIMAL FOOD FOR LATE MOLTING FOWLS.

Fowls that have not finished molting require animal food. It is essential to a rapid molt at any season, and tends to sustain the health and vitality of the fowls and to increase the gloss and attractiveness of the new feathers. It can be fed in the form of prepared beef scraps kept constantly before the fowls, fresh green bone fed liberally three times per week, or waste meat (raw or boiled); parts of animals can also be boiled for three or four hours and the liquor or "beef tea" mixed daily in the regular mashes. Skim-milk is another valuable animal food that is exceedingly beneficial. It can be fed sweet or thick, sour and mixed with the mashes. The thick, sour skim-milk will form a very palatable mash, and is more readily digested. The growth of feathers demands protein or albumen, which is one of the main constituents of animal foods. Vegetable foods are also valuable. Feed grain sparingly.—*Reliable Poultry Journal.*

The Horse.

THE COLT.

Nothing has more strongly impressed us in the years we have spent in the South than the want of care and attention which Southern farmers show for the young animals of their stock. It matters not whether the stock be horses, cows, sheep or hogs, the same want of thought for them is seen. So long as they can obtain their sustenance from the dam they usually make good progress, but the effort always seem to be to get them off the dams as soon as possible and to appropriate for themselves the work to be got out of the dam or the milk or other return to be had from the stock, and the young ones are then largely left to shift for themselves on such food as can be found handily, whether adapted to their wants or not. This is bad policy, and will never pay with any kind of stock. Young animals have special wants, which must be provided for or they cannot make that growth which is essential to their future profitableness and welfare. If the dam does her duty to her offspring it will at the time when able to begin eating be fat. If once this "sucking fat" is lost by want of proper food, care and attention, it is never put back again, except at a cost out of all proportion to its worth, and rarely ever at any cost. It may be taken as a sound axiom that the future value of any animal for any purpose is determined by the care given it during the first year of its life. What it does during that year will make or mar its future. Especially is this true of the colt. If from the time when it can eat it is not fed with food which will supply the protein needed for the making of bone and muscle it matters not what other food is fed the colt will be a failure sooner or later. This is true also of all other animals. In the first year of life the bones and muscles are being formed, and these cannot be built up out of carbo-hydrate foods alone; they must have protein foods. To expect corn alone in the shape of grain and fodder to supply this need is to expect the impossible. Where this feed alone is fed the animal in the effort to secure the needed protein stuffs itself with the food, and only succeeds in making a "pot-bellied" animal, with weak bones and muscles. Such an animal can never afterwards compete successfully in the market or on the road with one properly fed at the start. We in the South have an abundance of feeds rich in protein, and therefore there is no excuse for not meeting the requirements of nature. Oats, peas, soy beans, beans, clover, alfalfa, cow pea hay, vetches,

and soy bean hay all are rich in protein. Any of these fed in conjunction with corn and corn fodder and the grass hays will make a ration for young animals on which they can build up their frames and muscles and keep on their bones the "sucking fat" with which their dams clothed them. They should be encouraged to eat these foods as soon as they are able to do so, and a choice of them should always be provided to keep their appetites sharp and their health good. For young colts nothing is better than good, sound oats, bran and clover hay. They should have access to these foods in an enclosure apart from the mares, and will soon learn to go and help themselves, and at the same time learn to be contented and happy when the mares are away from them working. This is a very important matter. When not early taught the colts fret themselves when the mares are out of their sight, and lose flesh and become soured in temper. To avoid this many farmers allow the colts to run after the mares all day long when they are working. This is a bad practice, as it simply uses up the feed which should go to the development of the colt in maintaining its acquired growth and strength. Teach them early to be contented in the stable, barn or pasture in the absence of the mare, and then when weaned they will, if properly supplied with food, suffer no deterioration. All young animals should be handled from birth and taught to look upon their owners and those having the care of them as friends, in whom they can place perfect confidence. Especially is this important with colts. Halter them soon after they are born and teach them to be led. This done, the breaking them to harness and work will be an easy task. They will not be afraid of either the harness or the cart. Above all things, be kind to a young animal; teach him to love and not fear you, and then his temper in after life will be an asset of great value in the market.

NOTES.

Kelly, 2:27, son of Electioneer, 125, and the great brood mare Esther, thoroughbred daughter of Express, has been so well patronized that my lease on the bay stallion has been renewed with his owner, James Cox, of Mt. Jackson, Va., and he will be again kept for service at my private stable, 1102 Hull street, Manchester, Va., during 1905. Ninety-two mares were booked, and over 80 of them have already been served this season. Among these were a number of matrons of real class, of which some were shipped from quite a distance. On the score of breeding,

Kelly stands very high. He was sired by Electioneer, who got 166 in the list, among the world's champions, Arion, 2:07 $\frac{3}{4}$, sold for \$125,000 at two years old; Sunol, 2:08 $\frac{3}{4}$, and Palo Alto, 2:08 $\frac{3}{4}$, while in addition his sons and daughters have bred on with marvellous results. Esther, though strictly thoroughbred, nicked well with trotting blood, and besides Kelly, she produced the famous Expressive, 3, 2:12 $\frac{1}{2}$; Express, 2:21, and Elwina, 2, 2:27 $\frac{1}{2}$, while her daughters Extra and Effie are also great brood mares. A horse of exquisite quality and finish, Kelly represents the highest type of a trotter, while in temper and disposition no horse ever excelled him.



THE CHAMPION SHIRE HORSE OF ENGLAND IN 1904—
"SCHOULDEN SCYLOX."

He weighs 1,900 pounds at 2 years and 8 months old.

There is not a better mannered four-year-old trotter in the Valley of Virginia, and with good behavior he shows speed, too, than the big brown gelding Barlight, owned by James Cox at Belgravia Farm, by whom he was purchased as a yearling from his breeder, L. Triplett, Jr., the well known lawyer of Mt. Jackson. Barlight now stands 16.1 in height, and at maturity will weigh probably right around 1,300 pounds. He was sired by Kelly, 2:27, dam Fannie, a gray daughter of Sam Purdy, 2:20 $\frac{3}{4}$, second dam Mousie, dam of Hazel Bashaw, 2:14 $\frac{3}{4}$, pacing record 2:31, by Traveller. Hazel Bashaw, son of Bashaw, Jr., 2:24 $\frac{3}{4}$, formerly owned by Dr. D. D. Carter, Woodstock, Va., is credited with two standard performers in Belle Truit, 2:24 $\frac{1}{2}$, and the gray pacing gelding Doctor H., 2:22 $\frac{1}{2}$. The size of Barlight doubtless comes as an inheritance from his sire's side, and the brown gelding is a credit to Kelly. The lat-

ter has a full sister in the famous Expressive, 3, 2:12 $\frac{1}{2}$, who stands 16.2 and weighs about 1,300 pounds, while their dam, Esther, the thoroughbred daughter of Express, was full 16 hands. Another instance of transmission of great size, and a notable one, is that of Whips, 2:27, son of Electioneer and thoroughbred Lizzie Whips, who got the giant trotter Azate, 2:04 $\frac{3}{4}$.

The good gray mare Grandma, thoroughbred daughter of imp. Woodlands and Pomona, by Ten Broeck, owned here by E. S. Engleking, was bred in 1904 to Aloha, and the prospective produce will be entered in the Futurity and other important stakes. Grandma's foal of 1904, a bay filly by Aloha, died when four days old. The daughter of Woodlands raced well for her present owner, and for him she was a good winner at the fairs in Virginia, North Carolina and South Carolina. Pomona, the dam of Grandma, also produced the speedy gelding Handpress, who, at nine years old, in 1904, won at five-eighths of a mile in California, and did the distance in 59 $\frac{1}{2}$.

William Garth, who trains for J. E. Lane, of Esmont, Va., has probably the best stable of steeplechasers sent out from Virginia this season, and winners have been furnished in Imperialist, Mr. Churchill, Charley Moore, and others. In addition to his jumpers, however, Mr. Lane has some eight or ten choicely bred and promising yearlings that are being handled by T. B. Doswell at Bullfield Farm, and these will be raced next season. At Woodmond and Hattondale Farm, where Burlington, "the gentleman in black," holds court, there are some choicely bred mares, and their produce by the handsome son of Powhatan and imp. Invercauld will be showing up as winners before very long. Burlington was a fine race horse, and won the Criterion Stakes, Pelham Handicap, Brooklyn Derby, Belmont, the Trial and Tidal Stakes, and other important events.

Virginia horses did well in the jumping and hunter classes at the New York Horse Show last month, among those that carried off prizes being Elevator, Buck, Garnett Ripple, Colonel Hawkins, Lucy Sutherland., Up-to-Date, Chappie Lee, Tip Top and others. Elevator, the big gray gelding, by Eleve, thoroughbred son of Eolus, was sold by his owner, John Stewart Bryan, of Richmond, during the show to the wealthy New Yorker, Frederick G. Bourne, who paid \$1,500 for the horse. Elevator was bred at Laburnum Farm by Mr. Joseph Bryan and passed from him to his son, Mr. Stewart Bryan. The dam of the tall gray gelding was Kitsey, a daughter of the trotting stallion F. F. V., son of Mambrino Patchen, 58.

BROAD ROCK.

Miscellaneous.

VARIETIES OF WHEAT, CORN, ETC., GROWN IN THE STATE OF VIRGINIA.

We invite the attention of the farmers of Virginia to the following communication received by us from Prof. Soule, the Director of the Virginia Experiment Station, and ask that they will comply with the request therein contained. It will mean much to the farmers of the State to establish a reputation for the production of varieties of wheat, corn, etc, specially adapted for specific objects.—Ed.

Editor Southern Planter:

Will you not be kind enough to request subscribers to the SOUTHERN PLANTER in Virginia who are engaged in the production of named varieties of wheat, corn, etc., to advise us of that fact. We are frequently requested to inform, not only Virginia farmers, but those residing in almost every section of the United States, where they can obtain certain named varieties of wheat, corn, or other cereals produced in the State. It is thus a matter of pecuniary interest to every breeder of corn and wheat to post the Station authorities on what they are doing. We believe that with the information desired at hand the Station can be made of great service to seed producers in the State.

In our work at the Tennessee Station we found two varieties of corn native to Virginia possessing qualities of unusual merit. These were Cocke's Prolific and Virginia Ensilage. The combination of soil and climate found in Virginia ensures the successful development of varieties of corn adapted for culture in the States lying to the South. Therefore the breeding of special varieties on a commercial basis will provide a profitable industry for many Virginia farmers. This is a phase of our agriculture that has been overlooked entirely. We have been purchasing too much seed wheat, corn, etc., from other States, and not raising enough of our own. We can grow varieties better adapted to our own needs than we can purchase elsewhere.

We should also like to have a list of those engaged in the production of improved strains of cereals in the State in order that we may secure small samples of these grains for testing on our experimental plats, and for analysis as well. The writer has always believed that Southern farmers could grow winter wheat to advantage, and that this wheat would be the equal of that produced in any other section of the United States. It is hardly necessary to say that investigations along this line were carried on at the Tennessee Experiment Station, and a report published as Bulletin No. 4, Vol. XVI. These results were

so strikingly in favor of Southern grown wheat that it created an unusual interest in the subject, and it would seem advisable to duplicate the experiments on a larger scale. We are, therefore particularly anxious to have the addresses of all persons interested in the growing of well established varieties of wheat, so that we may obtain samples from them for analysis and baking tests.

It is also my opinion that corn produced in the South is likely to prove richer in protein than that grown in other sections of the country. This is largely attributable to our climatic conditions. We propose, therefore to undertake an extensive investigation to establish the relative merits of Southern grown corn for the production of protein, and to determine as far as possible the influence of soil and climate on the same.

If you will publish this communication in your valuable paper, you will confer a great favor on us, and I trust that the farmers of Virginia who are already interested in this matter, and especially those who are endeavoring to establish or improve standard varieties of wheat and corn will notify us of the fact so that we may be able to secure samples for the prosecution of the work as outlined above.

Believe me to be, with best wishes,

Very respectfully,

ANDREW M. SOULE,
Dean and Director.

SUGAR FROM CORN STALKS.

Perhaps the greatest new source of wealth that for the first time has been publicly demonstrated at the St. Louis Exposition, is the discovery of Prof. F. L. Stewart, of Murrys ville, Pa., that sugar of equal quality and quantity may be secured from suitable cornstalks as from the sugar cane of the South. The jurors of the exposition, recognizing the immense value of Prof. Stewart's revelation, have awarded him a gold medal, one of the highest awards possible.

The manufacture of sugar from the cornstalk is practicable in all that great territory between the sugar belt of the South and the short-season territory of the North. A company is now being incorporated and the capital is secured, to erect large factories for developing the Stewart process. One factory will be erected soon near Fort Worth, Texas, and another in Maryland, and others will, no doubt, follow in many districts in the suitable latitudes.

Prof. Stewart has discovered and fully demonstrated in the past few years that if the ear of the

maize (of suitable variety) is removed at a certain time (near the roasting-ear condition), the nature of the plant in further growth will be changed, and its sugar-making properties will be raised from say 6.70 to 13.80 per cent., as in one series of tests—i. e., 12 to 15 per cent. of sugar may be obtained from the juice of stalks so operated upon. Maize plants have long been known to contain sugar in the juice of the green stems, and many times efforts have been made to utilize it; but this has hitherto been commercially unprofitable—the juice containing too little sugar at any of its natural stages, and that obtained was associated with relatively large proportions of impurities.

On account of the great value of the other products to be secured through the Stewart process, the sugar might be considered as a by-product, or its actual cost figured as low as one cent per pound for the highest grade (96 per cent.) of unrefined sugar. Unlike unrefined beet sugar, but like that of cane sugar, the maize cane sugar has naturally a fine flavor, adapting it for common use as well as for refining. The products of the plant under the new process will be—first, the ear, suitable for food products or the silo; second, sugar products, including white crystal, yellow and second-grade sugars, table syrup, molasses and levulose, and molasses stock feed; third, the cellulose products, including paper pulps, five grades of cellulose, and viscous pyroxylin, amyloid and fine charcoal. These products of the cellulose structure of the stalk are used in the manufacture of many commodities demanded in the arts—for making celluloid, collodion, sizing, varnishes, transparent films, incandescent lamp filaments, artificial silk, gun cotton, smokeless powder, and many other purposes. The clean fiber and the cellular matter products result directly from the previous operations required to extract the sugar, so that the process is profitable at every stage.

To test thoroughly the practicability of this process, several varieties of corn have been grown in widely different localities between the 30th parallel and the southern limit of the beet sugar region, about latitude 40 degrees, and analytical and manufacturing tests have realized all the early promise of Prof. Stewart's experiments. In 1898, at Murrysburg, Pa., 12.64 to 13.68 per cent. of sucrose was found in the juice of the process stalks; in 1899, process stalk and juice samples from Elkhorn Valley, Neb., yielded 12.61 to 13.6 per cent. of sucrose in the juice (16 tons of trimmed stalks to the acre); in 1900, in Ventura county, Cal., 13.1 per cent. of sucrose and 1.1 per cent. of invert sugar were found in the juice, with process-stalk tonnage of 17½ tons per acre, irrigated; in 1900, similar results were found in South Carolina, Georgia and Pennsylvania tests. Upon the

basis of 12 per cent. of sugar in the juice, the estimate was made by a noted sugar expert, Mr. Edward Wolfbauer, of New York, that the yield of sugar per ton of the corn cane and its cost and value, at about present rates, would be:

PRODUCT PER TON OF STALKS.	
First sugar, 162.7 lb.	\$6.89
Second sugar, 26.3 lb. ....	.91
Molasses (very low av.) .....	.15
	\$7.95
Less brokerage and freight. ....	.15
	\$7.80
Stalks—cost per ton.	\$2.00
Stalks—transportation. ....	.30
Stalks—manufacturing.	2.50 4.80

Profit per ton stalks. \$3.00

Or 38.5 per cent., without including any consideration of the exhausted chips for paper pulp, or for the other products we have mentioned. The quality of the pulp from the exhausted matter is superior to that from straw or wood. One variety of maize tested yielded at the rate of one ton of sugar to the acre, and 4,000 pounds of dry pulp and 2,500 pounds of food products, the latter being equivalent in value to 50 bushels of ripened corn. It is intended to manufacture sugar, cellulose and other products at the same works.—R. E. H., in *Country Gentleman*.

St. Louis, November 19th.

THE LEGUMINOUS CROPS AS FACTORS IN THE CHEAP PRODUCTION OF MILK.

We have repeatedly urged on farmers the importance of studying the question of the most profitable rations to be fed to milch cattle, and especially the importance of feeding rations rich in protein as part of the feed. The production of milk is a nervous function, depending largely not so much in the richness of the food fed as upon the influence exerted by that food on the nervous organization of the cow. Protein foods have been found much more influential in this action than the carbo-hydrates, and hence their feeding in due proportion is most essential in securing a constant yield of milk. The question of the particular form of the protein food to be fed is one of great importance in calculating the cost of the milk. Bran, as is well understood by most dairy farmers, is most valuable as a producer of milk. It is rich in protein but it is usually costly, and with wheat selling at over \$1 per bushel is likely to be still more costly. The legumes, like

alfalfa, cow peas, soy beans and clover are all especially rich in protein, and can well be substituted for bran. Cotton seed meal and old process linseed meal are also rich protein feeds, but are costly when compared with the leguminous crops. Prof. Soule conducted a series of experiments at the Tennessee Experiment Station on this question of the cheapest form of protein food for production of milk and butter, and thus summarizes the results:

1. The cost of producing milk and butter can be greatly reduced by replacing a part of the concentrates in the daily ration of the cow with some roughness rich in protein, such as alfalfa or cow pea hay.

2. A ton of alfalfa or pea hay can be produced at a cost of \$3 to \$5 per ton, whereas wheat bran costs \$20 to \$25. As a yield of from 2 to 3 tons of pea hay and from 3 to 5 tons of alfalfa can be obtained from an acre of land, it is easy to see the great advantage the utilization of these roughnesses in the place of wheat bran gives the dairyman.

3. In substituting alfalfa hay for wheat bran it will be best in practice to allow one and one-half pounds of alfalfa for each pound of wheat bran, and if the alfalfa is fed in a finely chopped condition the results will prove more satisfactory.

4. When alfalfa was fed under the most favorable conditions, a gallon of milk was obtained for 5.7 cents and a pound of butter for 10.4 cents. When pea hay was fed the lowest cost of a gallon of milk was 5.2 cents and a pound of butter was 9.4 cents. In localities where pea hay grows well it can be utilized to replace wheat bran, and in sections where alfalfa can be grown it can be substituted for pea hay with satisfaction.

5. These results covering two years' tests with different sets of cows, furnish proof that certain forms of roughness rich in digestible protein can be substituted with satisfaction for the more expensive concentrates, and should lend great encouragement to dairy farmers.

6. These tests indicate that with alfalfa hay at \$10 a ton and wheat bran at \$20, the saving effected by substituting alfalfa for wheat bran would be \$2.80 for every 100 pounds of butter and 19.8 cents for every 100 pounds of milk. The farmer could thus afford to sell his milk for 19.8 cents a hundred less than he now receives, and his butter for about 22, as compared with 25 cents a pound.

A GREAT JERSEY VICTORY.

The computations of the results in the St. Louis Dairy Demonstration have been now carried to such a point that the relative standing of the two great rival dairy breeds (the Jerseys and Holsteins) may be correctly stated.

In Test "A"—herds and individual cows entered for demonstrating the economic production of butter fat and butter—the value of butter in the case of the Jersey herd has been determined as \$1710.403. The cost of feed consumed by them during the 120 days of the test has been valued at \$722.507, leaving a net profit to the credit of the Jersey herd of \$987.896, or \$39.51 profit per cow.

The net profit of the Holstein herd in this test is \$29.20 per cow. So that the Jerseys have been demonstrated to be the more economical producers of butter to the amount \$10.31 per cow in 120 days.

Test "B" was for herds and individual cows entered for demonstrating the economic production of milk for all purposes relating to dairying. In this test the Jerseys produced fat valued at \$1743.206, and solids other than fat valued at \$327.073. Total value of product, \$2070.279. Cost of feed to produce same, \$722.507, leaving a net profit of \$1347.772, or \$53.91 per cow.

In Test "B" the net profit of the Holstein herd is \$46.85 per cow. Thus the Jerseys prove the more profitable producers of milk for all purposes of dairying by \$7.06 per cow for the 120 days.

As an economical producer of both milk and butter the Jersey, therefore, appears as leader in the greatest public test ever conducted, and justifies all that her friends have claimed for her. R. M. Gow.

November 15, 1904.

FEEDING THE TURKEYS.

The turkeys do not go so far on the range now, as the cold nights come on, but wait for a morning feed before starting out. They are making rapid growth. As we have only oats and corn, we feed a good many oats, as that is the best to grow frame. New oats just threshed are not a good food, as I have found to my sorrow, but at this time of the year after the oats have gone through a sweating process they will not hurt the turkeys if they are not fed to excess.

New corn is not good for them, but if it is shelled and boiled, it is one of the best and safest foods that can be given to aid growth and put on flesh.

I remember that some years ago when we did not have thoroughbred turkeys I had fine success with my mixed flock until they were attacked by lice from lousy hogs. We lost a good many and believed that they were dying with cholera, but now we know that the trouble was caused by feeding green corn, providing too little grit, and by the lice. I knew nothing of commercial grit then. We pounded up broken dishes and the birds improved for a while, but they still ate the green corn, and we did not know about the lice. If hogs are lousy the lice will get on the turkeys and often prove fatal. If one must feed new corn, it must be boiled; it is then easily digested

and does away with dangers caused by indigestion. It should never be fed hot, for I believe that warm food is one cause of roup, as I have seldom had a case of roup since I discontinued feeding warm food. —Mrs. Chas. Jones, in *Reliable Poultry Journal*.

MORE EGGS IN WINTER.

Transferring mature pullets to strange quarters retards egg production. The early pullets should be comfortably and permanently settled in their winter quarters early in the fall. They should receive a liberal allowance of animal and vegetable foods, oyster shells and grit, in addition to the whole grain and mash, and should commence laying this month. The pullets are heavier layers in their first year than the hens, and for this reason they should constitute the flock of winter layers. The average egg-production of the pullets can be increased each year by breeding from the greatest layers. During the first winter the laying ability of each pullet is noted, either by trap-nests or by constant observation of the pullets on the nest; the next year the greatest layers of these pullets (now yearling hens) are fed lightly during the winter and placed in the breeding pens the following season. This method of constantly breeding from the heaviest egg-producers will rapidly increase the average yield of the females, and will establish a heavy laying strain in any variety.—*Reliable Poultry Journal*.

ASSOCIATION FIXES TOBACCO SCHEDULES.

The Interstate (Virginia and North Carolina) Tobacco Growers' Protective Association has adopted a scale of prices for leaf tobacco. It is claimed that this organization now has about 7,000 members, who are pledged to hold their crops for prices scheduled by the executive committee of the Association, which was appointed to establish equitable values. This committee reported that it costs Southern farmers on an average 10c. per pound to raise their tobacco and have it ready for market. Last season the Southern crop, they say, returned growers not over 7c. per pound. The following scale of prices is figured on an average basis of 12½c., which is considered equitable both from the growers' and buyers' standpoint:

Lemon wrappers, common to fine, 25@65c. per pound; orange wrappers, 20@60c.; bright mahogany wrappers, 18@35c.; dark, 18@40c.; bright fillers, 10@20c.; mahogany 10@22½c.; dark red fillers, 10@16c.; dark fillers, 8@16c.; tips, 8@12½c.; bright export leaf, 18@35c.; cutters, do.; bright smokers, 10@18c.; heavy smokers, 10@16c.; fillers, lugs, do.; low grades and trash, 5@9c.

Varieties of Corn for Planting—Soy Beans.

1. What is your opinion of the Southern Snowflake? Is it an early or a late corn, and will it suit hill and low grounds?

2. What corn do you think best suited to poor hills that will make about five barrels to the acre?

3. Do you think it will pay to raise soja beans here for hogs and feed. A SUBSCRIBER.

Fluvanna Co., Va.

1. The White Snowflake corn is a good hill land corn, but not so well adapted for low ground, as some other varieties. It is a quick growing variety and makes excellent roasting ears. It does not grow very tall, but makes a good yield.

2. Hickory King is one of the best varieties for thin upland.

3. Yes. We know a number of farmers who grow large areas of soy beans for hogs and for a forage crop. We have a high opinion of the soy bean as a forage crop. It is more easily cured than cow pea hay and makes a heavy yield on good land, and will make a good crop on poorer land than cow peas.—Ed.

The Secretary of Agriculture in his report says: "The chief purpose of investigations in fruit marketing has been the determination of methods best adapted to the harvesting, packing, storing, and forwarding of fruits to points relatively distant, with a view to developing a wider demand for them. Much attention has therefore been given to the development of the trans-Atlantic export trade. Large and profitable shipments of Bartlett pears were made from Eastern orchards to British markets. It is known that more than 75,000 packages of this variety were exported, while the total shipments of Eastern grown summer and fall pears amounted to at least 165 car loads.

"An encouraging beginning has been effected in commercial shipments of American apples to French markets. The most important experimental export work has been done upon winter apples. The proportion exported has risen from less than 1 per cent. of the estimated total in 1899-1900 to nearly 4½ per cent. in 1903-1904—a total of over 2,000,000 barrels, valued at nearly \$5,500,000."

The stable of runners sent out from Greenway Farm, Wilcox Wharf, Va., this season and raced under the name of R. Bradley & Co., won over \$8,000 at the Chicago tracks, of which amount \$4,125 stands credited to Aloha, bay filly, 4. Aloha, dam Mrs. Stuart, by Panique.

THE

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WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known. Particulars of Experiments tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

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BANK OF RICHMOND,

Main and Tenth Streets.

To Advertisers.

We wish to impress upon our advertisers the necessity of sending in all advertisements and matter pertaining to advertising, by the 25th of each month.

January Issue.

Our January issue will, as usual, be our regular Holiday Number. We are going to make it surpass all our previous efforts, both as to appearance and contents. We will look for the usual co-operation of our subscribers in helping us to extend our circulation, and will therefore have a copy of the Holiday Number with which to start all subscriptions. We think this issue alone will be worth the price of the year's subscription.

Advertisers are urgently requested to send in their copy at the earliest possible moment for their convenience as well as our own. There will not be enough space to go around—at least there wasn't in any previous similar number.

To Subscribers.

We are just on the verge of the usual tremendous rush in our subscription department. We are, therefore, going to ask the indulgence and patience of our readers in handling their subscriptions and club orders. If you do not get your papers promptly, rest assured they will be along in 10 days or two weeks at the most. We will greatly appreciate prompt attention to bills and notices, which are now being sent out. Beginning with December issue, all subscribers will receive their papers in a separate wrapper. No figures will appear opposite the name, as formerly, but you will always be reminded in ample time to renew your subscription.

Poultry
Supplies.

If you want eggs during the winter, you must feed Animal Foods, such as

**Meat Meal,
Beef Scraps,
Blood Meal,
Bone Meal,**

to take the place of the insects, worms, etc., which poultry get in summer. OYSTER SHELLS and GRIT are also prime necessities..

Write for Prices and Catalogue telling what to use for Success and Profit with Poultry.

**T. W. Wood & Sons, Seedsmen,
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We carry complete stocks of Cyphers' Incubators and Brooders, Poultry Foods, Egg Producers, Lice and Insect Powders, Poultry Remedies, etc.
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GOOD'S

Caustic Potash Whale-Oil Soap No. 3

Endorsed by U. S. Dept. of Agri. and State Experiment Stations. This soap is a Fertilizer as well as an insecticide. 60-lb. bags, \$2.50; 100-lb. bags, \$4.50; half barrel, 20-lb., 35c per lb.; barrel, 425 lb., 35c. Send for Booklet, JAMES GOOD, Original Maker, 929-41 N. Front Street, Philadelphia, Pa.

FRAZER

Axle Grease

Best in the world.

Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand Not affected by heat. Get the Genuine FOR SALE BY ALL DEALERS.

"FUMA" kills Prairie Dogs, Woodchucks, Gophers, and Grain Insects. "The wheels of the gods grind slow but exceedingly small." So the weevil, but you can stop their grind with "Fuma Carbon Bisulphide" are doing.
EDWARD R. TAYLOR, Penn Yan, N. Y.

Krausers' Liquid
Extract of Smoke

Smokes meat, perfectly in a few hours. Made from hickory wood. Delicious flavor. Cheaper, cheaper. No smokehouse needed. Send for circular.
E. KRAUSER & SONS, Milton, Pa.

CAPITAL AND PROFITS, - - - \$1,134,938.14.

Special attention paid to out-of-town accounts. Correspondence invited.

Three per cent. interest allowed in Savings Department,

Compounded semi-annually.

SALES AT BACON HALL.

Southern Planter:

With pleasure we report the following sales. Note much better inquiry for registered stock, and we still stick to the motto, "Satisfaction or no sale."

Having a son of the champion Berkshire, at St. Louis, at the head of our Berkshires, can furnish some prime pigs.

Sales Hereford.—Louis de Lacroix, of North Carolina, 1 bull; T. J. Meyers, of Maryland, 14 head Herefords; Honuquero Central Co. of Cuba, "Giltedge," a short 2-year-old, weighing 1,100 pounds; Herbert Hooper, of Maryland, "Bacon Hall," extra well formed February calf.

Berkshires.—J. T. Sharpless, of Pennsylvania, boar; Frank Walter, of Virginia, sow; T. J. Myers, of Maryland bred sow.

Muscovy Ducks.—H. S. Bowen, of Virginia, 4 head; C. M. Bolton, of Virginia, 1 drake. Yours truly,

E. M. GILLET & SON.

Bacon Hall Farm.

WIRE FENCE at Wholesale, A-1 price. Stock fence \$29 per rod. Send for price list and K. F. E. catalogue. Wire fence and all iron supplies. W. H. MASON & CO., Box 80, Leesburg, Ohio.

FENCE STRONGEST MADE. Full line of wire fence, galvanized and painted. Sold to the farmer at Wholesale prices. Fully warranted. Catalogue and price list sent on request. COILED SPRING FENCE CO., Box 58, Winchester, Indiana.

DOW FARM FENCE PRICE AND QUALITY WILL PLEASE YOU—WRITE US NOW. DOW WIRE WORKS—LOUISVILLE, KY.

BEATS ALL SCHEMES FOR AGENTS TO MAKE MONEY B. B. FENCE CO., Peru, Ind.

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BROWN PAYS THE FREIGHT Discount Fence Works. A No. 9 Steel Wire 15 to 35 CENTS PER ROD DELIVERED. Write for Price Book and Catalogue. THE BROWN FENCE & WIRE CO., Cleveland, Ohio.

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GINSENG & RAW FURS Wanted, full value for your goods. Write for price lists. Address H. C. METCALF, Alstead, N. H.

PAGE POULTRY FENCE

THE STAND-UP KIND made of the same strong quality of coiled wire as Page Stock Fences—stretches up like a fence, requires fewer posts and no top or bottom boards. 20, 24, 26 or 28 horizontal wires, 48, 56, 72 or 78 inches high, with bottom spaces only 12 inches. The intermediate horizontal wires are number 14 and stand a strain of over 300 pounds each, while the top wire and bottom wire are even larger and stronger. All wires are heavily galvanized.

A POWERFUL FENCE

—Fences poultry in stock out costs no more erected than common nettings and will outlast 20 of them. If you want to pasture your bull next to your poultry yard, no other poultry fence will do. Leading poultrymen all over the country endorse Page Poultry Fences. Our catalogue tells why they are better investments. It costs you nothing to investigate.

90 DAYS' FREE TRIAL—Let us tell you about our 90 days' free trial offer on Page Poultry Fences.

FREE PARING KNIFE To all needing fencing, who will write for catalogue, we will send a sample of our wire made up into a Faring Knife, which illustrates the superior quality of open-hearth, high-carbon steel used in the manufacture of Page Wire.

PAGE WOVEN WIRE FENCE CO., Box 5118, Adrian, Michigan

HERE'S A FEED GRINDER.

We have been greatly interested in the Latest Ditto's Feed Grinder, for it has revolutionized the grinding of ear corn and other grains. A large number of our subscribers purchased the Ditto last year and are extremely enthusiastic in its praises. Mr. Ditto seems very confident of the truth of every claim he makes for it, for he authorizes us to say that he will send to any responsible farmer one of his two-horse sweep mills for 10 days' free trial, with no money in advance. He guarantees that it will grind at least 20 per cent. more grain than any other two horse sweep mill, and be easier on the horses at that. Its light draft is due to the fact that it is the only ball-bearing sweep made; it is triple-gear and by an ingenious arrangement the grinding rings are held apart when the mill is running empty, so that they never touch or grind upon each other. This, of course, makes for long life of grinding rings—a most important consideration.

Mr. Ditto can be depended upon to live up to every agreement he makes, and we trust that our readers who need a grinder will take advantage of his liberal offer. Send to him (G. M. Ditto, Box 48, Joliet, Ill.) for his grinder booklet. You'll be interested.

A rake is mighty useful as a garden tool, but it makes a poor curry-comb for your horse. It's a worse mistake, though, using common soap to shave with. Even the best laundry or toilet soap, when used for shaving, will do to your skin just what a rake would do to your horse's hide. Williams Shaving Soaps are made especially for shaving by people who have been at it since 1840; and they have learned a good many things. Take advantage of the offer made elsewhere in this paper and you will reap the fruits of their 95 years' study.

WIRE BOARD FENCING Has many Advantages over any other style. Let us send sample and tell you all about it. THE THUS & CALE FENCE CO. 82 Doan Ave., Cleveland, O.

HARD STEEL

W R E F F N Heavy lateral wires, heavy hard steel stays, coiled spring wire, Sure Grip Lock. In strength, appearance and durability, the Hard Steel cannot be excelled. Write for catalogue and prices. THE HARD STEEL FENCE CO., Cuyahoga Falls, O.

Union Lock Poultry Fencing As It Looks When Erected

Strongest and Best By Every Test.

Has been fully tested by leading poultrymen. All heights 12 in. to 7 ft. Has fine mesh for small chicks. Over 1,000 rods of this fence used on Lakewood Poultry Farm, New Jersey. You will be pleased with it.

Our Low Price will Surprise You.

We will ship from mills in Connecticut, Illinois or California, and guarantee prompt delivery. Catalogue of Farm and Poultry Fencing free.

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A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

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Many of the readers of this magazine do not know that we

make a specialty of drilling artesian wells. We have drilled the most notable wells in the states of

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and North
Carolina.

Among them the wells for the Jefferson and Murphy's Hotels in Richmond.

If interested, write for prices.

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PUMP and WELL
COMPANY,

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Box 949, RICHMOND, VA.

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KEROSENE ENGINES**
Stationary, Portable, Marine, for Lighting, Pumping and Hoisting Outfits, all kinds of machinery, Lathes and Boats. Send for catalogue and prices.
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VEHICLE CO.,** 354 Third St., Macon, Ga.

EASY TO DEHORN

Your cattle with the **KEY-TONE** Dehorning knife. Operation performed in an instant with little pain. Leaves stump so that it heals quickly. The **KEY-TONE** Dehorner is sold on a money back guarantee. Send for free booklet giving valuable dehorning facts.

M. T. Phillips, Box 45, Pomeroy, Pa.

GOOD HOUSEKEEPING.

STUFFED PARTRIDGES.

This is a new way to cook birds, and you will find it most satisfactory for a game supper. Select the birds that are very little shot about the body, pick them, and prepare as you do a turkey or chicken for roasting. Pour hot water through the body until all the blood is washed out, then rub inside with a little salt and celery seed. Make a stuffing of bread crumbs, salt, pepper and butter, and fill each bird; tie them up and roast until a nice brown, basting constantly. Serve one to each guest in a nest of curled parsley or celery leaves.

STEWED BRAINS.

Wherever I go I see brains fried, scrambled, or broiled, but I never see them stewed, and they are much more delicious that way than any other. If you do not believe it, just get a set of brains from your butcher, and pour boiling water over them. This makes the skin come off more easily. After the skin has been removed let them stand a little while in cold water with a little salt in it to whiten. Then put them into a pan with a cup of milk and let them stew gently for ten or twelve minutes. Add a teaspoon of butter, salt, pepper to taste, and serve very hot with buttered toast. If you can add a half cup of cream just before taking them from the fire, all the better.

CALF'S HEAD PUDDING.

Soak a head all night in salt water to extract the blood. The next day put it on in a large porcelain or granite kettle, well covered with water, and let it boil for five or six hours. The size of the head must decide the length of time to cook. When it is cool enough to handle pick the meat carefully from the bones, and chop it into small pieces. Put the water away to make soup with for dinner. Put the meat into a pudding dish with a layer of bread crumbs; season with pepper, salt, thyme, and cover with another layer of crumbs, adding a few dabs of butter, and bake brown. If you like onion, it is a very great addition to the seasoning. To make the soup of the liquor, boil and skim, thicken with brown flour; season with a few cloves, nutmeg, pepper, salt, red pepper and sage, and just before taking off add a cup of some light wine, and serve with toasted bread, and your guests will never know that it is not turtle soup.

APPLE PIES.

Make a rich crust and bake it in the pie pans. Fill with stewed apples and cover the apples with meringue made with the whites of two eggs beaten stiff; one cup of sugar and a teaspoon of lemon extract. Set the pie back in the stove and brown slightly. Drop dabs of damson preserves about on top and serve cold.

SWEET POTATO PUFFS.

Make a rich paste, roll thin and cut in pieces the size of a saucer. Boil the sweet potatoes done, take off the skins and beat them up with butter, sugar, nutmeg, mace, and a little vanilla; put



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Old Wagon**

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Made to fit any steel, straight or staggered oval steel spoked wheels, cast in the hub, and riveted in the tire. Broad tires save rutting and draft. Any height desired. Write for free catalogue for particulars.
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Adjustable Storm Hood, non-elastic. Fits different buggies. Gives complete view. Two extra large lights. The most serviceable hood made.

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and add a Buggy Wheel, Steel Tire on, \$7.95
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Pocket Knives
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Gun Covers

WE ARE AGENTS FOR GOOD THINGS.

Feed Mill Sense.

Feed mills have come to be standard articles. Experimenting with new makes is likely to prove unsatisfactory and costly. In the interest of our readers who are without experience and unable to choose between the many different makes, we direct attention to the old reliable Quaker City Grinding Mill manufactured by The A. W. Straub Co., 3737 Filbert St., Philadelphia, and 47 Canal St., Chicago. These mills, made in 8 different sizes to meet every possible want, have an honorable record of 38 years. They are honestly built, right working, do a wide range of work and are easily regulated for coarse or fine grinding, and certainly have given eminent satisfaction to a long list of users for many years. They grind cob or shelled corn and all grain used for feed stuffs, coarse or fine, mixing thoroughly, all in the same operation. The Quaker City is a dependable mill out of which every user can depend upon getting satisfactory work. The 38th Annual Catalogue with all details may be had by writing the manufacturers at either of the addresses given above. Feeders without mills will serve their own interests by sending for it.



Satisfy Yourself

by trial at home nothing to pay if it fails that you can grind and shelled corn and all grains and animal feeds easier, faster and better with the

New Holland Feed Mills

than any other. Trial is absolutely free. Order with the understanding, 4 sizes and 3 styles, including small hand power. Saw your wood with New Holland Wood Saws and save labor. Three sizes.

Ask for free circulars and prices.

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GRIND FINE OR COARSE

all feeds, ear corn, with or without husks, all grains, with the



KELLY DUPLUX Grinding Mills

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Catalogue

they are the speediest, easiest running, strongest and most durable mill made. Four sizes, all new. New double cutters, force feed, no choking. It is true economy to buy a Kelly Mill.

THE O. S. KELLY CO., 159 N. Lime St., Springfield, Ohio

Cut! Crush! Shred!

Prepare your fodder so stock will get all the nourishment. No waste if you use



Heebner's
Feed
Cutters.

Prepare corn so stock eat it all and thrive on it. With shredder attachment (\$6.00 extra) you have three machines in one for ensilage and all feed cutting. We make Trunk and Lateral Power Crushers, Wood Saws, etc. Catalogue mailed free.

Heebner & Sons, 25 Broad St., Lonsdale, Pa.

a tablespoon of this on one side of the pastry and turn the other side over; dampen the edges to make them stick together, and bake. These are really very good, and make a nice addition to a lunch or cold tea.

FRUIT CAKE.

Six cups of flour,
Four of sugar,
Four of butter,
Twelve eggs, beaten very light, separately.

One pound of raisins.
One pound of currants.
One-half pound of citron; shave as thin as possible.

Two teaspoons of powdered cinnamon.

Two teaspoons of powdered nutmeg.
Two teaspoons of powdered cloves.
One glass of brandy. Makes two loaves.

SPICE CAKE.

Four cups of sifted flour, one of butter, three of sugar, one of molasses, half a cup of sour milk, one teaspoon of soda, three eggs, one teaspoon of ginger, one of allspice, one of cinnamon, one of cloves, one of mace (all these spices must be powdered). If you choose, add a cup of dried cherries, a cup of raisins, and a cup of currants and a cup of nuts chopped fine, and bake in loaves.

NUT CAKE.

One pound of nut kernels, chopped. If you use almonds or English walnuts, blanch the kernels. One pound of sugar; the whites of six eggs, beaten very stiff; two tablespoons of flour. Drop on buttered paper and brown quickly in a hot oven.

GELATINE JELLY.

Soak a box of gelatine three hours in a pint of water. Add one pint of wine, two pounds of sugar, a little mace, the rind of a lemon shaved off. Pour over this two quarts of boiling water (in very cold weather you can use three quarts of water). Stir until all is mixed and the gelatine dissolved; then add the juice of the lemon and strain. Put in a cold place, and it will keep more than a week.

DRIED CHERRY PUDDING.

Three cups of flour, two cups of fruit, one cup of molasses, one cup of milk, two teaspoons of cream tartar, one cup of chopped suet, or butter, one teaspoon of soda. Mix all as well as possible, and put into a mould or bag and boil three hours. Serve with sauce made with butter and sugar and nutmeg, with a glass of wine, all beat together. You can use any fruit in this way and it will be just as good.

CARAVAN.

Finlayson, Minn., August 10, 1904.
Box 47.

Dr. B. J. Kendall Co.
Enosburg Falls, Vt.

Gentlemen:—Please send me one of your books, "A Treatise on the Horse and His Diseases." I have been using Kendall's Spavin Cure. It is the best horse remedy in the world.

Yours truly,

ALFRED MATSON.

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Clark's Rev. Bush Plow and Harrow cuts a track 5 ft. wide, 1 ft. deep. Connects the subsoil water. It is an excellent machine for covering in sugar cane. Strength guaranteed.

Can play a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.

Clark's Double Action Cutaway Harrow moves 15,000 tons of earth in a day.



Send for Circulars.

Clark's Rev. Sulky Disc Plow



Made single or double. One or two furrows five to ten inches deep; 14 inches wide. For two or four horses. Light draft. No side draft. No similar

plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charlock, hardback, sunflower, milk weed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seeding to grass.

THE CUTAWAY HARROW CO.,
Higginson, Ct., U. S. A.

STAR PEA HULLER

WONDER OF THE AGE.

Guaranteed to hull and clean 10 to 15 bushels of peas per hour by hand, or 20 or 30 bushels by power. Write for circular and prices.

STAR PEA MACHINE CO.,
Chattanooga, Tenn.

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MILLET SORGHUM PEAS VINES ETC.

WITH A "HANDY" BALER.
FINISHES ABSOLUTELY UNIFORM BALES.
SWIFTEST AND LIGHTEST STANDARD SIZE.
OPERATING HAND PRESS EITHER LIGHT OR HEAVY.
EVER PUT ON THE MARKET.



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DALLAS, TEXAS.
WRITE FOR PARTICULARS.
CATALOGUE HAND-MADE POWER PRESS FREE.

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10 Days Free.

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It is does not grind at least 50% more ear-corn or other grain than any other two horse sweep mill made and it back at my expense. Don't miss this offer. Ball-bearing throughout. Only 10 ft. sweep. Light draft. Grinding rings never touch each other—they last for years. Both grinders revolve; self-cleaning. Ask for new Catalogue.

G. M. Ditto, Box 48 Joliet, Ill.

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Facts are what the farmer wants, whether buying a team or a telephone. If you want to know how others have built successful telephone lines write for free book "Facts for Farmers" gives the facts you ought to know about telephones for farm use, and whether you buy

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prevent sores and white spots on horses' backs by regulating tension of girth as if it were elastic. Prevent buggy running against horse if breaching breaks. Prevents girth breaking and shafts wabbling. Made of best single leather. Outlast other tugs. Handsome in appearance. For sale by D. A. Brown's Son, Richmond, Va. Pair sent postpaid for \$1.50. Write for circular. THE FONTAINE CO., Christie, Va.

SAWS

ANY WOOD IN ANY POSITION ON ANY GROUND 4 into 8 ft. Through 2 MEN with a 1 Mail Sawing Machine Beats 2 Cross-cut Saw 6 to 9 cords daily is the usual average for one man.



Our 1915 Model Machine saws faster, runs easier and will last longer than ever. Adjusted in a minute to suit a 12-year-old boy or the strongest man. Send for catalog showing latest improvements. First order gets agency. Folding Sawing Mach. Co., 1, So. Clinton St., Chicago, Ill.

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and say nothing. You'll save labor and yet accomplish something with the least cutting

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With ripping table and adjustable gauge for ripping boards, piles, lath, etc. Made in Sizes 16, 24, 36, 48, 60, 72, 84, 96, 108, 120, 144, 168, 192, 216, 240, 264, 288, 312, 336, 360, 384, 408, 432, 456, 480, 504, 528, 552, 576, 600, 624, 648, 672, 696, 720, 744, 768, 792, 816, 840, 864, 888, 912, 936, 960, 984, 1008, 1032, 1056, 1080, 1104, 1128, 1152, 1176, 1200, 1224, 1248, 1272, 1296, 1320, 1344, 1368, 1392, 1416, 1440, 1464, 1488, 1512, 1536, 1560, 1584, 1608, 1632, 1656, 1680, 1704, 1728, 1752, 1776, 1800, 1824, 1848, 1872, 1896, 1920, 1944, 1968, 1992, 2016, 2040, 2064, 2088, 2112, 2136, 2160, 2184, 2208, 2232, 2256, 2280, 2304, 2328, 2352, 2376, 2400, 2424, 2448, 2472, 2496, 2520, 2544, 2568, 2592, 2616, 2640, 2664, 2688, 2712, 2736, 2760, 2784, 2808, 2832, 2856, 2880, 2904, 2928, 2952, 2976, 3000, 3024, 3048, 3072, 3096, 3120, 3144, 3168, 3192, 3216, 3240, 3264, 3288, 3312, 3336, 3360, 3384, 3408, 3432, 3456, 3480, 3504, 3528, 3552, 3576, 3600, 3624, 3648, 3672, 3696, 3720, 3744, 3768, 3792, 3816, 3840, 3864, 3888, 3912, 3936, 3960, 3984, 4008, 4032, 4056, 4080, 4104, 4128, 4152, 4176, 4200, 4224, 4248, 4272, 4296, 4320, 4344, 4368, 4392, 4416, 4440, 4464, 4488, 4512, 4536, 4560, 4584, 4608, 4632, 4656, 4680, 4704, 4728, 4752, 4776, 4800, 4824, 4848, 4872, 4896, 4920, 4944, 4968, 4992, 5016, 5040, 5064, 5088, 5112, 5136, 5160, 5184, 5208, 5232, 5256, 5280, 5304, 5328, 5352, 5376, 5400, 5424, 5448, 5472, 5496, 5520, 5544, 5568, 5592, 5616, 5640, 5664, 5688, 5712, 5736, 5760, 5784, 5808, 5832, 5856, 5880, 5904, 5928, 5952, 5976, 6000, 6024, 6048, 6072, 6096, 6120, 6144, 6168, 6192, 6216, 6240, 6264, 6288, 6312, 6336, 6360, 6384, 6408, 6432, 6456, 6480, 6504, 6528, 6552, 6576, 6600, 6624, 6648, 6672, 6696, 6720, 6744, 6768, 6792, 6816, 6840, 6864, 6888, 6912, 6936, 6960, 6984, 7008, 7032, 7056, 7080, 7104, 7128, 7152, 7176, 7200, 7224, 7248, 7272, 7296, 7320, 7344, 7368, 7392, 7416, 7440, 7464, 7488, 7512, 7536, 7560, 7584, 7608, 7632, 7656, 7680, 7704, 7728, 7752, 7776, 7800, 7824, 7848, 7872, 7896, 7920, 7944, 7968, 7992, 8016, 8040, 8064, 8088, 8112, 8136, 8160, 8184, 8208, 8232, 8256, 8280, 8304, 8328, 8352, 8376, 8400, 8424, 8448, 8472, 8496, 8520, 8544, 8568, 8592, 8616, 8640, 8664, 8688, 8712, 8736, 8760, 8784, 8808, 8832, 8856, 8880, 8904, 8928, 8952, 8976, 9000, 9024, 9048, 9072, 9096, 9120, 9144, 9168, 9192, 9216, 9240, 9264, 9288, 9312, 9336, 9360, 9384, 9408, 9432, 9456, 9480, 9504, 9528, 9552, 9576, 9600, 9624, 9648, 9672, 9696, 9720, 9744, 9768, 9792, 9816, 9840, 9864, 9888, 9912, 9936, 9960, 9984, 10000.

MONTANA NEWS.

Almost might one think that in the old days some king did reign here supreme in medieval style, for the trail by which the railroad finds its way up the canyon of Belt Creek into the midst of the Belt Mountains, climbs upward, upward, until Monarch sits 1,000 feet above Great Falls, a coign of vantage. A side canyon, steeper and yet more picturesque than the Belt canyon leads out of this wild country on to a series of high agricultural lands which are at once an astonishment and a delight to the eye. Is it possible, one asks, that here, 5,000 feet high and yet within sight of the Great Falls smelter smoke-stack, lies an undulating farming section as prosperous and productive as, perhaps, any region of the world? Farmers were coming down this canyon with hay, grain and potatoes for market. How much are you getting for your hay this year, I asked. Eleven dollars was the reply. And what are oats worth? Oats were \$1.25 a hundred pounds in this section, and weighed 40 and 45 pounds to the bushel. How was the potato yield this year, I asked one man driving along with a ton or more of stacked spuds. He was a Swede. Well, he said, pretty fair. Not too much. Pretty fair. That was all I could find out. Which reminded me of the incident of the engineer running on a southern Illinois train who had a new fireman, and when he sent him back to see how much water there was in the tank, all he could learn was that there was "right smart." So he looked himself and found "right smart" to be exactly nine inches. Later I discovered that "pretty fair" probably corresponded to about 125 or 150 bushels to the acre.

Now, the wonder of this Kibbey section, so-called, which includes very many square miles of fine farm land, is that though you are in sight of the desert, yet you might think yourself in the rolling country of Illinois. There is abundant moisture for the growing of enormous crops and no irrigation is practiced. This year is the drierst in the history of Montana, and yet no crops of oats, which I saw ran less than 35 bushels, some 45 bushels to the acre; wheat 20 and 25 bushels and timothy hay a ton and a half—fairly good for what the farmers term a failure year.

It is passing strange that here in the midst of the foot-hills of the Rockies, in a state generally understood throughout the country to be largely desert and requiring irrigation for farming lies in a big community which is, I verily believe, as productive as any section of the United States, as capable of producing, acre for acre, year in and year out, as great a crop value as any section of the United States. For three feet deep the earth is a solid manure. It is no more a desert than is the Louisiana bottom.

Yet a 160 farm in the Kibbey coun-

The Best Cooking Range Made, Sold for Cash or on Monthly Payments \$10 to \$20 Saved. FREIGHT PAID. Your money refunded after six mos' trial if

Clapp's Ideal Steel Range

is not 50 per cent better than others. My superior location on Lake Erie, where iron, steel, coal, freight and skilled labor are cheaper and best, enables me to furnish a TOP NOT H Steel Range at a clean saving of \$10 to \$20. Send for free catalogue of five distinct lines, over 50 styles and sizes, with or without reservoir, for city, town or country use. CHESTER D. CLAPP, 247 Lynn St., Toledo, O. (PRACTICAL STOVE AND RANGE MAN.)

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HERCULES STUMP PULLER

Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made. Hercules Mfg. Co., 413 17th St., Centerville, Iowa.

The Monarch Stump Puller. The best on earth; you make no mistake in buying of a man of 5 years experience in pulling stumps. We set up the Puller and guarantee satisfaction before we want your money. 5 sizes. Write for catalog and prices.

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STUMP PULLERS SEVEN SIZES \$1750 UP

WE PAY THE FREIGHT CATALOG FREE

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OPIUM

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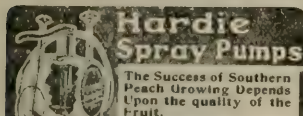
**Cheap eggs
are as good as
cheap lamp-
chimneys.**

MACBETH.

If you use a wrong chimney, you lose a good deal of both light and comfort, and waste a dollar or two a year a lamp or chimneys.

Do you want the Index? Write me.

MACBETH, Pittsburgh.



**Hardie
Spray Pumps**

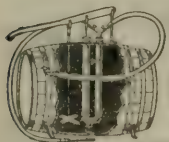
The Success of Southern
Peach Growing Depends
Upon the quality of the
fruit.

Perfect fruit is only possible from healthy trees. Six days work for two men will thoroughly spray an orchard of 1,000 trees with a Hardie-spray Pump, and no branch of fruit culture will pay such big dividends as spraying.

Our Book On Spraying gives you all the information you need on this subject including all the best formulas giving you the secret of the success of the men who have made big money in fruit growing.

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**Defender
Sprayer**

All brass, easiest working, most powerful, automatic mixer, expansion valves, double strainer
Catalogue of Pumps and
Treatises on Spraying free
AGENTS WANTED:
J. F. Gaylord, Box 22, Casskill, N. Y.



CLEAN SAFE DURABLE AND COMFORTABLE

WALLACE B. CRUMB, FORESTVILLE, MD.

try, and in what is known as the "Michigan Settlement," with barn, granary, cabin and other real improvements, sold this year for \$1,400. Why? because half the country has been taken up under the desert land law, a utter violation of that law, for there is no possible way of watering the land artificially as required by the law, and people, even those living in Great Falls with its 20,000 inhabitants, clearly visible from this land, believe that this is desert land in reality, and some of them will tell that a man will starve to death on 160 acres. The business men of Montana are the most short-sighted of men. The Kibbey region is one of a hundred in the State, some of them of great extent, all of them lying among the mountains at elevations of from 3,000 to 5,000 feet where the soil is the black gneiss of the mountains, surcharged with potash, phosphorus, and nitrogen, the chief elements of fertility, and with the rainfall sufficient for grand crops, where the climate is as near perfection as can be found, a bit cold, perhaps in winter months, but bracing and invigorating, and the kind that develops fibre and produces strong and rugged men. Yet these merchants grovel to a few stockmen, who would monopolize these fertile valleys for the grazing of a comparatively few sheep and cattle, rather than see them settled with the dense agricultural population, which would flock to them if the facts were known, which would bring wealth and greatness to the State.

The country through which I traveled was about a third settled, hardly that. The rest of the land was held by stockmen, speculators, fraudulently acquired under the desert land law. Tom Jones enters a homestead of 160 acres. Next he makes a desert filing alongside of his 160, then his wife takes up 320 acres under the desert law which requires no residence. This acreage, not being sufficient to satisfy Jones's land hunger, he prevails upon Jim Smith, Bill Williams, and Sam Brown who live in some adjoining town to take up each 320 acres adjoining his land and turn it over to him for a matter of fifty or a hundred dollars a piece. Jones, of course, relieves these stool pigeons of the responsibility of making the irrigation improvement supposed to be required by the government, and of making any cash outlay, but in this section of country under discussion these improvements are nil—they have never been made. And it may be added that this Bill Williams-Sam Brown string of dummies can be carried on indefinitely, and is the case in many instances in Montana, simply depending upon the ability of the land grabber to supply the \$1.25 per acre which the government must receive for so-called desert lands.

There have been thousands of fraudulent entries in Montana under the

"FEED THE PLANT AND THE PLANT
WILL FEED YOU."

**CANADA UNLEACHED
HARD-WOOD ASHES**

IS "NATURE'S OWN FERTILIZER."

It is no experiment, and makes good crops.

Write for prices and particulars.

WE KNOW IT WILL PAY YOU.

T. C. ANDREWS & CO.,

Norfolk, Va.

Agricultural Lime, Land Plaster, Fertilizers at
Bottom Prices.

Genuine Imported—

PERUVIAN GUANO

Absolutely pure and not
manipulated.

A FINE NATURAL BIRD MANURE.

NEVER HAS BEEN EQUALLED.

NEVER WILL BE EQUALLED.

SHIPMENTS FROM NORFOLK, VA.
WILMINGTON, N. C.

SMITH-DAVIS CO., Importers,

WILMINGTON, N. C.

CANADA UNLEACHED

Hard-Wood Ashes.

Rich in Potash, Phos. Acid, and Phosphate of Lime. The best known top dresser for strawberry plants. The cost is much less than manipulated fertilizers. Genuine tonic for poor land. The results are always satisfactory. AGRICULTURAL LIME, PLASTER, NITRO CULTURE, FERTILIZERS, etc.

PERCY L. BANKS,

P. O. Box 182, Norfolk, Va.

SAVE THAT PORKER.

To any person sending us 25 cents in stamps or silver we will send by mail a bottle of GREGORY'S ANTISEPTIC HEALING OIL, guaranteed to cure every case of Cholera in hog or chicken if administered in first stage of the disease. Cures colic in man or horse in one to three minutes. If it fails drop a postal card and we will return stamps or money. Full directions given.

GREGORY MEDICINE CO., Conway, Ark.
Send now, as this ad. will not appear but three times.

For Sale or Trade.

A Western threshing outfit, 12 horse power, good traction engine and a fine Case Separator. One year used. Price very reasonable. Will trade for cattle, horses or land.

MEYER & JEHN, Farmville, Va.

ENGINES: 15 Horse Traction \$250; 10 Horse Traction \$200; Rollers, Engines new and second hand from 4 to 100 Horse. Single saw mill \$125; Double mill \$150; Machinery of every description at one-third actual value.

D. CASEY, Springfield, Ohio.

NOT A FAILURE

In Twenty-Five Years.

There may be some better criterion of the value of an article than the "test of time," but if there is we do not know of it.

Kendall's Spavin Cure

has stood this "test of time" and is more popular to-day than ever before. Unequaled for Spavin, Ring Bone, Curb, Splint and all forms of Lameness. Read the unsought endorsement of others and then act for yourself.

Tiptonville, Ga., February 14, 1903.
Dr. B. J. Kendall Co., Enosburg Falls, Vt.
Gentlemen—I have been using your remedies for about twenty-five years with success. I keep your Spavin Cure all the time. There never seems to be a spare fulmar where it was used according to directions. I think it is the greatest remedy on earth for what you recommend it. I can tell of a number of cases where it was used and that got well in a few days that seemed almost hopeless. Please mail me your "Testimonials." Very truly yours,
A. H. WALDEN.

Price, \$1; six for \$5. As a Liniment for family use it has no equal. Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book free, or address,

DR. B. J. KENDALL COMPANY,
Enosburg Falls, Vt.



Save the animal—save your herd—cure every case of Lump Jaw. The disease is fatal in time, and it spreads. Only one way to cure it—use

Fleming's Lump Jaw Cure

No trouble—rub it on. No risk—your money back if it ever fails. Used for seven years or nearly all the big stockmen. Free book tells you more.

Spavin and Ring-bone

Once hard to cure—easy now. A 45-minute treatment does it. No other method so easy—no other method sure.

Fleming's Spavin and Ringbone Paste cures even the worst cases—none too old or bad. Money back if it ever fails. Free illustrated book about Lump Jaw, Spavin, Ringbone, Splint, Bog Spavin and other stock ailments. Write for it.

FLEMING BROS., Chemists,
280 Union Stock Yards, Chicago, Ill.

SLOAN'S LINIMENT

50¢ & 1.00 Cures Swine Disease & Hog Cholera

SEND FOR CIRCULAR WITH DIRECTIONS

DR. EARL S. SLOAN, 615 ALBANY ST. BOSTON, MASS.

desert act, an act constructed, and innocently passed by Congress for the purpose of allowing public land stealing in the West. Should the people of Montana set their faces against this nefarious law and insist upon the carrying out of the principle of the old homestead law, with its original five-year residence provision, the population of the State could be surely doubled within ten years.

There are many people in the east, now becoming somewhat densely populated, who would gladly grasp the chance to obtain a free homestead such as their fathers found in Illinois and Iowa, and they would come out and take up the land of these new sections as they are discovered in this great State, 470 miles in length—for they are being discovered every year—and make prosperous and contented farm citizens, a bulwark and a wealth producer to the nation. As is usually the case in such matters, the State is too short-sighted; the nation must step in. A few men who are making vast fortunes largely control public sentiment and would prefer that the present system continue. But the public land policy must be changed, in Montana and in other Western States where such conditions exist. The laws under which land stealing is rife must be amended and repealed, and an honest handling of the people's domain be substituted. The spirit of the Old Grow Homestead law must be revived and this wholesale grabbing checked with a strong hand. In this way, and only in this way can we provide for our surplus population seeking new homes, and at the same time prevent great landed monopolies from controlling the destinies of our new States.

"A boy gets out of owning a gun all the joy there is in it," says a well-known writer in the Illustrated Sporting News. "There are mighty few pleasures, anyway, that a man can have that boy does not have on a smaller scale, but more intensely."

"Some boys are hungrier for guns than others—that is partly a matter of what there is handy to shoot—but I never knew a boy who did not want a gun, and did not delight in it when he got it. It is not because of any innate murderousness in the boyish disposition, but merely because the gun means power, suggests the relaxation of apron strings, and is an exceedingly important and interesting piece of mechanism."

Such opinions have been offered by writers the country over. The movement for this "gun education" of the American boy was begun by the J. Stevens Arms and Tool Co., of Chicopee Falls, Mass., makers of the famous "Stevens" firearms. The catalogue of this company is a mine of information on gun owning, and makes excellent winter night reading for grown-ups as well as for the boy. It will be mailed upon receipt of four cents for postage.

Horse Owners! Use

GOMBAULT'S

Caustic Balsam

A Safe, Speedy, and Positive Cure



The safest, Best BLISTER ever used. Takes the place of all treatments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle, SUPERSEDES ALL CAUTERY OR IRONING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



DEATH TO HEAVES
Unwarranted
NEWTON'S Heave, Cough, Disrupter and Indigestion Cure.
A veterinary specific for wind, throat and stomach troubles. Strongly recommended. \$1.00 per can. Dealers, Mailer Ex. paid. The Newton Remedy Co., Toledo, Ohio.

NO MORE BLIND HORSES.

For Specific Opt. alms, Moon Blindness, and other Sore Eyes, Barry Co., Iowa City, Ia. have a sure cure.

VIRGINIA DIVISION.

FARMER'S MUTUAL BENEFIT ASSOCIATION.

Chartered by State of Virginia.

A Fire Insurance Association for Farmers of Eastern Virginia.

Organized January 9, 1899; amount insured January 9, 1904, \$400,000; policies secured by real and personal property, estimated value, \$1,000,000. Send for statement of plan and book of membership to CHAS. N. FRIEND, General Agent, Chester, Va.

DON'T LOAF THIS WINTER.

Country salesmen wanted. We teach art of selling, pay commission, and guarantee salary. Great opportunity for young farmers and teachers to learn business. J. B. CRABTREE, Richmond, Va.

WANTED,

Position as Manager

of a fully equipped estate by a man of practical experience and agricultural college training. Salary or shares considered. A. G., care Southern Planter.

WANTED,

PLACE AS FOREMAN OR MANAGER

on farm; experience in farming, dairy, truck, poultry and stock raising. References exchanged. T. R. P., 3 W. Grace, Richmond, Va.

"Feeds and Feeding"

Prof. Henry's Great Book for

Farmers and Stockmen.

Delivered anywhere for \$2.00 with the SOUTHERN PLANTER, 2.25

Mention The Southern Planter in writing.

Wood-Stubbs & Co's

BLUE RIBBON SEEDS

WERE AWARDED THE

GOLD MEDAL

at Louisiana Purchase Exposition

ST. LOUIS, 1904.

Our New Catalogue

issued in January will contain full information about improved Seeds, Crops, Culture and valuable hints to farmers and gardeners.

Mailed Free

if you mention this paper.

WOOD-STUBBS & COMPANY, Seedsmen, Louisville, Ky.

Emporia Nurseries

are now offering at reasonable prices No. 1. APPLE TREES, 1 and 2 yr., mostly late kinds, of high grade stock, which is being praised as the **FINEST STOCK EVER OFFERED IN THIS COUNTRY.** KIEFFER PEARS, 1 and 2 yr., GRAPE VINES, SHADE TREES, PEACH, PLUM, MICHAEL'S EARLY STRAWBERRY, the best early berry, at \$1.25 per 1,000; 25c. per 100; Apple, 4 to 5 ft., 10c. each; \$8 per 100; Apple and Peach, as above, 5 ft. up, 15c., \$10 per 100; Kieffer Pear, 5ft., 50c., or \$5 dozen; Botton Plum, 4 to 5 ft., 25c.; \$15 per 100; Concord, 1 yr. Cottonwood Shade Tree, 5 ft. up, 25c., Niagara and Worden Grape, 2 yr., \$5 per 100 or \$10 per 100. We can ship any time. Send money with order to insure prompt filling.

**EMPORIA NURSERIES,
Emporia, Va.**

Trees - Trees

I offer a fine lot of whole root trees.

APPLES, PEARS, PEACHES,
CHERRIES, PLUMS, GRAPE
VINES, RASPBERRIES, Etc.

Save agent's commission by sending your order to the nursery.

CATALOGUE FREE. All Stock Inspected and Fumigated.

WERTZ'S NURSERY, SALEM, VA.

THE NUT NURSERY CO. MONTICELLO FLA.

Growers of PANCY and RAHLE by grafting in all of the more important species of nuts. We have probably the **FINEST STOCK OF GRAFTED PEANUTS** in the South. Catalogue for the asking. J. F. JONES, Manager.

Mention THE SOUTHERN PLANTER in writing.

THE LEHMAN HEATERS.

The attention of our readers is invited to the ad. of Lehman Brothers, New York City, in which they are offering their well-known home, carriage, automobile, wagon, and sleigh heaters. This heater strikes us as be-



ing a most useful device, and as the cost for operating is so very low, we certainly imagine that almost every farmer in the country would readily own one.

Refer to the ad., and send to this firm for an illustrated descriptive pamphlet.

A STRIPED CAVALRY HORSE.

A REMARKABLE ARTIFICIAL ANIMAL THAT IS REVOLUTIONIZING EUROPEAN MILITARY OPERATIONS IN AFRICA.

St. Louis.—The visitor to the exhibits of German East Africa at the World's Fair is surprised to see, in the photographs of military manoeuvres taken at the principal cities of the colony, that all the officers and troopers are mounted on striped horses. On reflection one decides that these must be zebras, and is surprised to find that so wild and shy an animal has been successfully reduced into a state of such docile subservience to human utilities.

Neither supposition, however, is correct; but, rather, the two are equally true and equally false. The animals in question are "zebrulas," which are a hybrid between the horse and the zebra.

Many experiments in the cross-breeding of wild animals have been made at the Hagenbeck Zoological Gardens, in Hamburg. Many have been successful, but the zebrula is the only product thus far yielded that has already attained to great commercial importance. The first experiments in the crossing of the horse and the zebra were made about nine years ago. With experience they became more and more successful, until the zebrula, as the animal thus artificially produced was called, reached a high state of perfection, combining the docility of the horse with the special qualities of the zebra.

The German army in Africa had suffered great inconvenience from inability to acclimate the horse and mule in that part of the world and secure them from the ravages of the deadly tsetse fly, which had destroyed tens of thousands of mules since the first attempts at the introduction of the latter.

As soon as the military officers of the German government heard of the

COW PEAS

for sale. We offer for December, January or February shipment the following varieties of COW PEAS, all 1904 Crop, and free from weevil:

CLAY, BLACK, WHIPPOORWILL, RED RIPPER, WONDERFUL, and CALICO.

At \$1.25 per bushel for prompt shipment; \$1.35 per bushel for deferred shipment; WHITES, \$1.65 per bushel all f. o. b. Hickory. 1 MALTESE DONKEY, 18 mos. old, price, \$40 f. o. b. here. Also a few pairs of CHOICE BERKSHIRE PIGS, at \$15 per pair.

**HICKORY KILLING COMPANY,
Hickory, N. C.**

Strawberry Plants, Trees, etc.

\$1.60 buys 1,000 nice young STRAWBERRY PLANTS, and if you are not satisfied with them, you can get your money back. Send for free catalogue. JOHN LIGHTFOOT, R. F. D. 2, Sherman Heights, Tenn.

Largest Peach Tree Growers

IN THE SOUTH.



Write for our new illustrated and descriptive catalogue of general Nursery Stock.

**CHATTANOOGA NURSERIES,
Chattanooga, Tenn.**

Alfalfa Seed

18 CTS. LB. 50 LBS. L. INOCULATED ALFALFA SOIL. 100 lbs. \$10 a ton. RECORDED HEREFORDS, almost best prices. J. N. SHIRLEY, Lebanon, Ind.

EDW. S. SCHMID, Emporium of Pets

SINGING BIRDS, FINE BRED FOWLS, CAGES, PIGEONS, DOGS, PET ANIMALS, GOLD FISH, AQUARIUMS, DOG AND BIRD FOODS, MEDICINES, ETC.

PRAIRIE STATE INCUBATORS. BROODERS of the best make. Large catalogue free.

712 12th Street, N. W.,
WASHINGTON, D. C.

WANTED!

ALL KINDS OF
LIVE WILD BIRDS AND ANIMALS

Particularly Deer, Wild Turkeys, White Squirrels, Ducks, Swans, Bob White Quail, Grey Squirrels, Bear, Baby Raccoons, Foxes Etc.

**DR. CECIL FRENCH,
718 Twelfth St. N. W., Washington, D. C.**

THE KEELEY INSTITUTE GREENSBORO, N.C.

For the treatment of THE LIQUOR, OPIUM, MORPHINE and other Drug Addictions. The Tobacco Habit, Nerve Exhaustion

Williams' Shaving Soap

"The only Soap fit for the face"

Williams' Shaving Sticks and Tablets sold everywhere. Free trial sample for 2-cent stamp to pay postage. Write for booklet "How to Shave."

The J. B. Williams Co., Glastonbury, Conn.

"Crop Growing and Crop Feeding."

BY PROF. W. F. MASSEY.
383 Pp. Cloth, \$1.00; Paper, 50c.

We offer this splendid work in connection with the SOUTHERN PLANTER at the following prices:

Southern Planter and Cloth Bound Volume, \$1.25.
Southern Planter and Paper Bound Volume, 90c.
Old or new subscriptions.

IMPORTANT To Land-Owners.

Do you realize the importance of having a good map or plot of your land? I make a specialty of copying worn and faded farm, town lot and other maps, and to making maps and plots from metes and bounds as described in deeds. If you want old maps copied, mail to me, or if you want a map made from your deed, copy metes and bounds and mail to me.

DON'T PUT IT OFF.

After you have lost your old maps or they have become too badly torn and faded, it will be too late.

SPECIAL ATTENTION given to surveying and dividing large tracts of land in Virginia and North Carolina. My charges are: For maps, \$2 and up, according to size, and \$1 and up for calculating area. Mail me what you want done, and I will quote you price for same. DAVID T. WILLIAMS, Civil Engineer and Surveyor, 336 Main street, Danville, Va.

BAGS FOR EVERYTHING;
NEW OR SECOND-HAND;
SOLD OR RENTED.
Write for prices.
RICHMOND BAG COMPANY, Richmond, Va.

FARMS WANTED

For two Western farmers; we want Eastern Shore farms for cash rent, with privilege of buying in renting time. Farms must be well adapted for stock raising and with water front. MEYER & JEHNE, Farmville, Va.

Mention THE SOUTHERN PLANTER in writing.

Hamburg experiments, they began to watch them with close attention, and as soon as possible undertook to test the applicability of the zebra to military uses. The zebra, which is native to the country, can only be broken to the saddle or the harness by many years of skillful discipline, and even then never becomes trustworthy; but the new animal was found to be as gentle as a horse, much stronger than a mule, and entirely immune from the tse-tse.

The Imperial Government of Germany then established a breeding station in its African colony. At this station zebrulas are being bred as rapidly as possible, and already they are regularly used in the mountain batteries of the colonial service. They are being introduced, for mounting of officers and men, and for draught purposes, in the other branches of the service as fast as they become available in sufficient numbers.

Several specimens of the zebra have been exhibited in the great live stock pavilion of the World's Fair, and made quite a sensation there because of their wonderful beauty. They have now been removed to the Hagenbeck collection of wild animals in another part of the grounds. Those exhibited are perfectly broken to the harness, and present so many good points that numerous persons have made inquiries with a view to acquiring similar ones for fancy driving.

Germany will probably absorb for military purposes all the available supply for several years to come; but whenever these animals have been produced in sufficiently large numbers to enable them to be placed upon the general market it is likely that they will become one of the fads of the hour, and no member of what we used to call the "smart set" will be contented to drive otherwise than behind a spanking pair of zebrulas.

Besides the cross between the horse and the zebra, a similar hybrid is displayed, which is a combination of the zebra and the donkey, and therefore a sort of zebra mule.

SURE HATCH INCUBATOR.

The Sure Hatch Incubator Company, whose ad. will be found in another column, write us that their new machine has a great many improvements over their old machines, as well as incubators, of any other make. One of the principle features is that the water-heating device has five-sixths of its surface exposed to the direct action of the lamp heat, leaving only one-sixth of the surface exposed to the external cold. This principle will be found to be reversed in most other machines. This is only one of the many points of merit, which sold upwards of 24,000 of these machines last year. A full description will be found in the beautiful illustrated catalogue of this company, which they will mail free to those requesting it.

Banking By Mail

The Citizens Savings and Trust Co.

OF CLEVELAND, is the largest and oldest Trust Company in Ohio, having a capital and surplus of **SIX MILLION DOLLARS** and total deposits of over **THIRTY MILLION DOLLARS**

4% Interest

is paid on Savings Accounts of ONE DOLLAR and upwards, which can be sent safely by Express or Post-office Money Order, Check on local bank, New York Draft or Currency by registered mail. Send for Booklet H.

Make Your Idle Money Earn You Interest.

Write the FIRST NATIONAL BANK of RICHMOND, VIRGINIA for information concerning its certificate of deposit, so arranged that one per cent. may be collected every FOUR MONTHS through your nearest bank or store.

Our experience proves this form for savings to be the most satisfactory plan yet devised for deposits of \$100.00 or more.

Our Capital and Surplus is **ONE MILLION DOLLARS.**

JOHN B. PURCELL, President.
JNO. M. MILLER, Jr., Vice-Pres. & Cashier.
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FINE FARM FOR SALE,

273 Acres, 6 miles from Chase City, Va.

Seventy acres cleared, balance in wood; 45 acres in timothy and herds grass. Six room dwelling, all necessary outhouses, barns, stables, etc. Well watered by creek and branches. Price \$3 per acre; one-third cash, balance to suit. Address

W. H. SAUNDERS, Chase City, Va.

Northern Virginia Farms.

Of every class, adapted to Grain, Fruit Dairy and Blue Grass, within five to thirty miles of Washington, D. C.

No. 5.—163 acres; half timber, balance cleared; 1½ miles from station Good 7 room house; large barn; good water. Price, \$2,000.

No. 16.—130 acres; 20 in timber, balance cleared. Good land. In good condition. Comfortable 4 room house Fine water. Five miles from station. Fronts on Pike. Price, \$20 per acre.

No. 22.—226 acres. Two and one-half miles from station. Forty acres timber, balance cleared. Fine land in good condition. Good 7 room house. Large barn, etc. Price, \$20 per acre.

No. 23.—50 acres truck and fruit farm. Price, \$2,650.

No. 30.—50 acre farm in Loudoun county, 3½ miles from rail. Price, \$1,600.

No. 33.—400 acre farm in Loudoun county. Good grain and grazing land Price, \$7,500.

No. 36.—275 acre farm in Fairfax Fine quality of grain and grass land. Good buildings. Refined and educated citizens. Price, \$7,000.

See April and May issue of SOUTHERN PLANTER for description of the above farms, and write for my farm list and full information.

W. E. MILLER, - Herndon, Va.

Desirable Farm,

With Unsurpassed ... Educational Facilities.

261 acres in the Bright Tobacco Section of Prince Edward county, for sale, within 400 yards of old historic Hampton-Sidney College One-half of land clear and under active cultivation. This farm is fenced in with celebrated Stronk Fence with cedar pickets, and is equipped with the most modern farming implements. Ten room house, with office in yard, also stable, new shed, good well and line house, with a spring of natural water near by. The magnificent road connects Farmville and Hampton-Sidney, runs through the place. Having educated my boys, I intend to leave the county, and will sell cheap my furniture, horses, cows, farming implements and farm. Address MARY C. REYNOLDS, Hampton-Sidney, Va.

On account of poor health, I will sell my valuable

1,000 Acre Farm,

which is well adapted to stock, hay, pasture, small grain, corn and cotton; two-thirds under cultivation and in pasture one-third in nice marketable timber, pine, poplar, oak, gum, ash, persimmon and cypress; new, modern, 30 room dwelling, 20 tenant houses, 2 new and 2 old barns, and other outbuildings, 2 miles from railroad, daily mail, one-fourth mile from church, schools, cotton gin, saw and grist mills, thrifty village, 7 miles from city wharf on farm. If desired, will sell 2 head of Jersey and Holstein cattle. Will sell farm for half its value.

W. H. BUFFKIN,

Box 237,

Elizabeth City, N. C.

ANTE-NATAL INFLUENCES—NO. 2.

"Mary Washington."

A woman is extraordinarily impressionable during the period of gestation, which is proved by the fact that if she experiences a sudden shock or fright at this time, her infant is very apt to be born deformed or weak-minded. The danger, however, is greater in the earlier stages of pregnancy and decreases towards its close. Miss Muloch's story, "A noble life," turns on an incident of this kind. She represents the hero as being born fearfully dwarfed and misshapen owing to his mother having seen her husband drown before her eyes the day before the infant was born. But herein Miss Muloch made a great blunder, remarkable in a woman of her intelligence and information. The dwarfing and deformity of the child could not have occurred at this late stage, though it might well have taken place a few months earlier, had the mother then been subjected to such a shock.

It is a well known historical fact that the timidity and cowardice of James the 1st of England, was due to the fright his mother experienced when her favorite, Rizzio, was assassinated in her presence. I read some years ago in the papers a terrible and gruesome instance of the power of ante-natal influences, combined, doubtless, with heredity ones, intensified in the transmission. A butcher's wife, during a period of pregnancy, used to watch her husband slaughtering animals—both husband and wife being probably of a peculiarly low and coarse type. The child to which she gave birth became a murderer before he was twelve years old, slaughtering one of his little companions with a sharp knife. When questioned in court as to his motive for the deed, he said "he didn't know why he did it, but he loved to stick a knife in any one."

The impressionable state of the pregnant woman has, however, its bright side, as well as its perilous one. It also readily takes on pleasant impressions. We can easily trace the effects of a woman's hearing fine music, reading fine books, mingling with charming and improving associates. In short, all the mother's pursuits, and all her states, both mental and physical, exert more or less influence on the unborn child.

But the bed rock of the child's character, I believe, is chiefly determined by the predominant traits of the father or mother or other ancestors. At all events, the child gets his tendencies this way, though, of course, he may either confirm or overcome these.

The father of the expected child has a larger or more important part to play than anyone else in creating a serene and cheerful atmosphere around the mother. The tie between husband and wife is so close (for weal or woe) that the state of mind of one is very dependent on that of the other. An

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Mention THE SOUTHERN PLANTER in writing.

unloved, unkindly treated wife cannot possibly be in a tranquil and happy state of mind. Where such a tragic state of things exists, it seems almost a misfortune that there should be any children, but if there are, you may trace in them the effects of the wife's disquiet and depression during the ante-natal period, as well as subsequently.

But even where a husband is not unkind, he is not always as thoughtful as he might be. He is constituted so differently from a woman that he does not realize the immense value she sets on a loving word or caress, nor how her heart aches when these are withheld, perhaps, from mere inadvertence or from the pressure of some outside care. When a woman is expectant of maternity, then is the time above all others that her husband should show her the most thoughtful tenderness and strive in every way to cheer and interest her, and to create around her a bright, loving and serene atmosphere. Now is the time he should keep strictly in curb any tendency to croaking, fault-finding or irritability, if he is disposed to indulge in any of these very disagreeable traits. At this time, above all others, he can help and brace up his wife by his tenderness and care which will not only be a blessing to her, but of incalculable benefit to their unborn child. And on her part, let her fill up her life with gracious deeds, kindly words and useful pursuits striving to keep all anger and bitterness out of her heart and life, and all unworthy and corroding thoughts out of her mind, trembling lest these might leave an impress on the little creature that is "bone of her bone and flesh of her flesh."

DOG NOT FOR DUCHESS.

ROXBURGH'S AMERICAN BRIDE REBUKED BY SHEPHERD AT LEDBURGH BAZAAR. Kelso, Eng., Oct. 8.

The Duchess of Roxburgh recently had a practical little lesson in the fact that money cannot do everything.

Just as the ducal party was leaving the bazaar the duchess was attracted by an especially fine black and hazel collie in the possession of a poor old shepherd from the neighboring hills. She called him to her and asked for how much he would sell the dog. The old man replied that it was not for sale.

SHEPHERD OFFERS REBUKE.

The Duchess offered \$50, then \$100, the shepherd still shaking his head. Finally she raised the offer to \$500. The old man, who was miserably dressed in a shepherd's tartan plaid and Tam O'Shanter, drew himself up proudly and said:

"Ma leddy, gin ye were the queen herself me and ma dowg wull ne'er be parted for siller."

The Duchess said she admired his disinterestedness, and afterwards sent him a handsome present.

—A VERY FINE—

Virginia Bred Jack,

2 years old the 10th of last June; large for his age and a perfect beauty. Price \$350 cash, or will take \$100 down and note for balance, to be well secured and bearing 6 per cent interest until paid. Don't go West and pay a fabulous price when you can get better stock at home for less money. Write or come to see me, J. E. THOMASSON, Bumpass, Virginia.

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Champion blood of England and America. Puppies now ready to ship. Also bitches in whelp for sale. MEYER & JEHNE, Farmville, Va.

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Pups for sale. A choice lot they are, too. Sable and white; full white points. FINSBURY LAD, Son of Finsbury Herd and Ormskirk Dolly, etc., will serve a limited number of bitches. Write me for terms and pedigrees. Limited number of B. P. R. O K Cockerels for sale. ALFRED P. WHITE, JR., Parkside, Va.

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Price reasonable. Will trade for pair of drivers or for land. MEYER & JEHNE, Farmville, Va.

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This breed EXCLUSIVELY. We can offer you in the Edgewood strain something profitable. Better try us. Pullets and cockerels for sale. If you want PULLETS, better get orders in quick. H. B. ARBUCKLE, Maxwellton, W. Va.

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Buff Leghorns,

the best layers, beautifully marked, from strains which layed 210 eggs a year. \$5 a trio.

SUPERB BRONZE TURKEYS from the best pens of the country. Trio, \$10; hens, \$3 each. Toms, \$4 to \$5 each. Satisfaction guaranteed. A. R. VENABLE, JR., Farmville, Va.



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Black Devils and Red Cubans.

Where they won, Sharon, N. Y., 4 out of 5 Blue Rock, Pa., 2 out of 3. Clarion, Pa., 5 straight. Roanoke, Va., 8 out of 9. Akron, Ia., 2 straight. Eggs, \$2 per sitting. Young trios, quail also, \$3.

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Barred Plymouth Rocks.

Some fine Cockerels for sale at \$1 each. F. MAXWELL CONNER, Box 316, Richmond, Va.

A PROMINENT JUDGE'S OPINION.

Gadsden, Etowah Co., Ala.

Oct. 22, 1904.

Jas. Haas, V. S., Indianapolis, Ind.:

Yours of the 19th inst., at hand and carefully noted. I purposed to have written you ere this, but I was quite sick in spring and summer and was away from home. I had quite a time last spring with my hogs and so much so that I have not taken the interest in them as I would probably had I not lost so many of them. I want to say for your Hog Remedy that I never lost a single hog after the eating of the first dose and every one I could get to take it after taken sick, got well and made nice hogs, nor did I have any more sick hogs after the use of the Remedy. I have been feeding it to the few I have all summer, and when out shall order again. don't propose to be without it, so long as I raise hogs. Should you have any skeptical customers refer them to me and I will gladly tell them how my hogs were dying and how they quit and had no more sickness after using your Remedy.

J. H. LOVEJOY, Judge Probate Court.

There is a most remarkable strike now being carried on against the Macbeth-Evans Glass Company, the chimney makers of Pittsburg, probably not equalled by any in folly and so against the interest of their men. The company have employed a large force, many of which have been with them for twenty to thirty years, but in this time the union has fallen into the hands of the worst element, and the most odious forms of limitations put on the company's plants, and the earning capacity of the men kept down in the most amazing manner by the iron heel of "persuasion." Men in these factories have been earning from four to six dollars per day, "limited"—they are capable of earning five to nine dollars per day. The company have had all of their improvements, which are very expensive, nullified by the "limiting" process—until the limit of their forbearance has been reached—the thing has gone to full fruit—the walking delegate element has prevailed too much.

So it has gone on and on until the product is increased in cost beyond what it should be; every new facility nullified, if possible completely; the best equipped plant in the world is pulled down to the poorest; every improvement is fought over; the best workman is kept down to the level of the poorest, his freedom zone, he must not even talk to employers.

THE KEELEY INSTITUTION.

The Keeley Institution, Greensboro, N. C., sends us a very interesting pamphlet, entitled "The Right Road and the Right Track." They will be very pleased to mail a copy of it, along with other literature, to those interested in that institution.

. COCKERELS .

of the following breeds for sale at \$1 each: Barred and White Plymouth Rocks, Black Minorcas, Black Langshans, R. C. Brown Leghorns, S. C. White and Brown Leghorns, Light Brahmas and Wyandottes; also Toulouse Geese and Pekin Ducks. J. B. JOHNSON, Clover Hill Farm, Manassas, Va.

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45 Best Varieties. My Mammoth Bronze Turkeys are fine and ready to ship. Write me for what you want in poultry. Good stock. Low prices. Large illustrated. Descriptive Poultry Book, only 6c. List free. JOHN E. HEATWOLE, Harrisonburg, Va.

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Strong, healthy, farm-raised birds, Orr's strain, fine plumage—Cockerels, \$1.25; females, \$1. Order early so as to get first choice. Satisfaction to every customer or money refunded. POLAND CHINA FIBS \$5 each. Dr. H. H. L'E. R. F. D. No. 2, Lexington, Va.

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Greatest Winning Strain.

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The following is an extract from a recent communication to The Breeder's Gazette of Chicago, written by Prof. W. A. Henry, Dean of the Wisconsin Agricultural Experiment Station, and probably the most eminent American authority on scientific agriculture.

One of the greatest comforts I experience in life is the thousands of friendships built up through "talks" with GAZETTE readers. Not a day passes but some one comes into my office or writes me a letter telling of the confidence he feels in the instructions I have given and the friendship he feels toward me in the pleasant relations we have established through "The Feeder's Corner" of THE GAZETTE—the farmer's greatest paper. Not only have I friends everywhere in the country made through this means, but I am continually surprised at the number of persons living in the city who regard THE GAZETTE as one of the choicest pieces of literature that comes to their homes, and who eagerly read its pages. Many of these own country property and others are longing for a home close to the soil, away from the grime, noise and turmoil of urban life. Man's natural place is on the soil, surrounded by plants and animals. The artificialities and glamor of city life have exercised their abnormal drawing power all too long. Now the times have changed and the country is about to retain a reasonable portion of the brains it produces and to draw from the city as well some of the brightest of its young men. Our agricultural colleges and our high-grade agricultural papers such as THE GAZETTE are powerful factors in this movement.

Sample copy free if you mention the Southern Planter.

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THREE FINE YOUNG BOARS,
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TWO YOUNG SOWS, same
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These pigs are from registered stock and are first-class in every respect. Our pigs have free range, with a fine stream of running water through the hog pastures, and our stock is as vigorous and healthy as possible.

Prices include crating and delivery f. o. b. cars at Richmond, Va.

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BERKSHIRE PIGS,

for sale. A fine lot of spring farrowed Boars and Gilts. These pigs are sired by Imported **Danesfield Tailor** (76340) from the famous R. W. Hudson herd, Danesfield England. His sire is the celebrated **Manor Faithful**, which sold at the Biltmore sale of 1903 for \$615.00.

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In this way all sorts of repairing of machinery and other metalwork can now be done readily by hand which has hitherto required the removal of the broken portion and its shipment to the foundry. An incalculable amount of time and trouble and money are saved by the device, which permits all repairing to be done on the spot almost instantaneously. It has already been extensively applied to such purposes as the closing of cracks in metallic plates or surfaces of any kind, the welding of trolley rails, of steel or wrought-iron pipes, and of broken roll-bosses.

In future naval wars it will be invaluable for annealing the spots in armor plate that have been injured by the enemy's shots. It is applicable to girders, bars, angles, shafts, turnposts, locomotive frames, and any possible section of rolled or wrought iron or steel; and it may even be used for welding cast-iron and making castings.

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The Fontaine Company, Christie, Va., are advertising regularly with us a most useful harness invention under the above name. An officer of this company showed us the working of the tug and also submitted us numerous testimonials from parties using them, and we agree with him that he has not only a very useful, but a very necessary contrivance.

The main point in these tugs is that they allow considerable "play" to the girth, making the shafts rigid, however, with each expansion and contraction of the horse's body. The chances for a broken girth are slim indeed when this device is used. Look up the ad., and send for descriptive circular and testimonials.

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M. B. TURKEYS FOR SALE.

Toms, \$3.00; hens, \$2.50. Also

B. P. Rock Cockerels, \$1.00 each.

C. T. JOHNSON, - - - Beaver Dam, Va.

I have for sale a few very handsome

M. Bronze Turkeys

AND

Golden Penciled Hamburg Chickens.

Dr. T. J. WOOLDRIDGE, French Hay, Va.

A FINE LOT OF

MAMMOTH BRONZE TURKEYS

for sale. Apply to R. E. CREE, Creset, Va.

FOR SALE.

Two pairs of WORKING MARES cheap, or will trade for mule colts.
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SARSAPARILLA

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It creates sound, healthy flesh, clears the complexion, and strengthens the nerves, aids digestion, is helpful in kidney diseases, and especially valuable in cases of female weakness and kindred ailments.

These two valuable remedies are marvels because they have and are constantly effecting marvelous cures where other like remedies failed to give relief.

Mrs. L. E. Brown, of Raleigh, N. C., writes: "She can hardly explain the good that Yager's Liniment has done for her and family. She had rheumatism so bad she could hardly get around, and began using this Liniment, and soon found relief, and now would not be without it."

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Contains the

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In England and America.

Young Stock for Sale.

Inquiries cheerfully answered.

EDW. G. BUTLER, Annefield Farms,
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BERKSHIRES

All my pigs sold except twenty-one (21), farrowed September 20th, 24th and 25th, 1904, from registered sows, sired by MASON OF BILTMORE II (68548). Price, \$6 each, or \$10 a pair f. o. b. delivered first week in December. None but Biltmore blood in my herd.

ROBERT HIBBERT, Charlottesville, Va.

OUR herd represents the
very best strains imported

—LARGE—

English Berkshires.

Choice stock at reasonable
prices. Address

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BERKSHIRES

for sale: 4 bred sows at \$15 each; 1 ready-for-service boar, \$15, and 6 pigs at \$3 each. M. BRONZE TURKEYS, \$5 per pair; S. C. B. Leghorns, B. P. Rocks and White Wyandottes, at 75c. each if taken before Christmas, 1,000 bushels nice white corn. M. E. ANDREWS, Hurt, Pittsylvania county, Va.

GLENBURN FARM BERKSHIRES

are rich in the blood of the champions of England and America. Foundation stock has been obtained from the most noted breeders of England and America. None better. Few as good. Won first prize for best boar and best sow at Virginia State Fair. DR. J. D. KIRK, Roanoke, Va.

HAWKLEY STOCK FARM
has some very choice

Berkshire Pigs

now ready for shipment. They are "tops" in breeding and individuality. Also M. B. TURKEYS and S. C. B. LEIGHORN CHICKENS for sale.
J. T. OLIVER, Prop'r,
Allen's Level, Va.

VERY FINE DUREC PIGS FOR SALE
Also, handsome SETTER DOG eight months old; pure black ANGORA KITTENS.
A. F. LOCKWOOD,
Orange, Va.

BIG CLEVELAND BANK PAYS 4 PER CENT. INTEREST.

The Citizens Savings & Trust Co., of Cleveland, the oldest and largest trust company in Ohio, having a capital and surplus of six million dollars, and deposits of thirty-six million dollars, has established a "Banking by Mail" department, and will pay depositors in any part of the country 4 per cent. on savings accounts of one dollar and upwards.

This move on the part of so large a financial institution will give people situated in the country and in small towns an opportunity to make deposits with one of the strong banks of the country. And, in addition, it will give depositors a chance to secure a 4 per cent. investment, about one-third more than most banks pay.

In this connection it is interesting to note that Cleveland banks were the first in the United States to pay 4 per cent. interest on savings accounts, and are still, with two or three exceptions, the only banks doing so. That they are able to pay this interest with profit is well proved by their growth and success.

The Citizens Savings & Trust Co. will send upon request an attractive booklet, giving details of their business and of their method of handling accounts by mail.

THE SUPERIOR DRILL COMPANY'S 1905 ALMANAC.

Next year's calendars and almanacs are making their appearance in great force at present. Among the most useful and interesting which we have received is the Almanac and Household Encyclopedia issued by the Superior Drill Co., Springfield, O. The calendar feature alone makes the almanac well worth having, but the other useful information, which it contains, makes it doubly so. If you will write to the above company and mention this notice, they will very cheerfully send you a copy.

A PARING KNIFE FREE.

The Page Woven Wire Fence Co., who have been advertising with us for years, send us a very novel and useful device in the shape of a paring knife, made from the No. 7 wire, which goes into all of their fences. This company will be very pleased to mail any one requesting it one of these knives, and also its handsomely illustrated fence catalogue. This firm, by the way, has a very attractive ad. in this issue, and we invite the attention of our readers to it.

MIETZ & WEISS OIL ENGINES WINNERS AT ST. LOUIS.

Mr. August Mietz, who has been advertising in our columns in season for a number of years, writes us that the Mietz & Weiss oil engine was awarded a gold medal and special diploma at the St. Louis Exposition. This same engine won a gold medal at the American Institute in 1877; Paris, 1900; Pan-American, 1901; Charleston, 1902.

HIGH-CLASS

Poland Chinas.

Choice 3 mos. pigs, \$5 each. 5 to 6 mo gilts, \$8 to \$10. All eligible to registry. Sunshine strain. Fine S. L. Wyandotte Cockerels, \$1 each. Satisfaction guaranteed.
E. T. ROBINSON, Lexington, Va.



Registered P. Chinas
C. Whites Large strain. All ages mated, not akin. Bred sows, Service boars, Guernsey calves, Scotch Collie pups and poultry. Write for prices and free circular.
P. F. HAMILTON,
Cochranville, Chester Co., Pa.

ORCHARD HILL PURE-BRED

POLAND CHINAS

Two fine litters of pigs now ready for sale; six beautiful young sows ready to breed, and a fine Guernsey bull calf, one month old.
F. M. SMITH, JR., R. F. D., No. 4, Charlottesville, Va.

Registered Poland Chinas

1 year old Reg. P. C. SOW, bred to Reg. P. C. Boar. \$25.

3 mos. P. C. PIGS, eligible to registry, \$5 each.

SILVER LACED WYANDOTTE COCKERELS, \$1 each. Fine birds. E. T. ROBINSON, Lexington, Va.

CHOICE YEARLING

POLAND CHINA

Gilt, bred to a superior SUNSHINE BOAR, for sale. Will farrow March and April. Also SUNSHINE Boar Pigs 6 mos old. Two-year old reg. PERCHERON STALLION COLT, solid black, with white spot in forehead. BRILLIANT strain, good style and well grown.

THOS. R. SMITH,
Lincoln, Loudoun county, Va.

OAK - GROVE - STOCK - FARM

offers for sale a number of fine ESSEX PIGS November delivery. Also some choice POLAND PIGS. March, 1904, farrow. \$15 per pair. Your orders solicited. All stock as represented.
L. G. JONES, Tobaccoville, N. C.



Salt Pond Herd.

DUROC JERSEYS

Home of Paul J. 21625. Also Lulu's Pet 40434. Pigs of March and May farrow for sale. Write for what you want.

S. A. WHITTAKER, Hopeside, Va.



O. I. C. PIGS

FROM REG. STOCK

FOR SALE. PRICES RIGHT.

F. S. MICHIE, Charlottesville, Va.

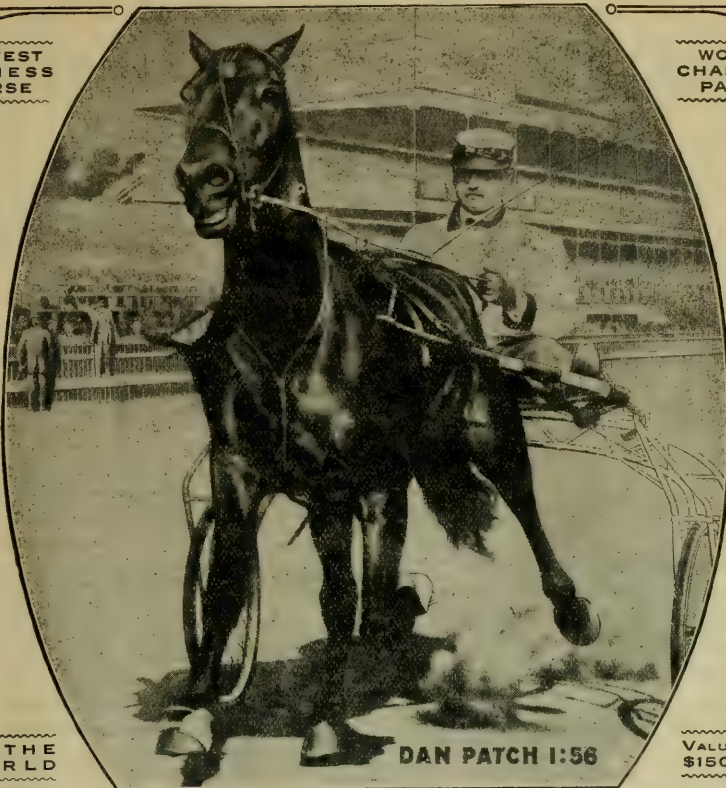
Poland-Chinas and Chester Whites

AND MAMMOTH BRONZE TURKEYS
AT FARMERS PRICES.

S. M. WISECARVER, Rustburg, Va.

**FASTEST
HARNESS
HORSE**

**WORLD
CHAMPION
PACER**



**IN THE
WORLD**

DAN PATCH 1:56

**VALUED AT
\$150,000**

BEAUTIFUL COLORED PICTURE OF DAN PATCH MAILED FREE

PRINTED IN SIX BRILLIANT COLORS, SIZE 24 BY 34 INCHES.

The picture we will send you is a large reproduction of the above engraving, in six colors, and is made from a photograph taken of Dan while he was going at his highest rate of speed. It is one of the finest motion photographs ever taken and is as natural and life like as if you actually saw him coming down the track. This picture shows Dan flying through the air with every foot off the ground. The picture we will mail you is entirely free of advertising and makes a very fine horse picture for framing.

MAILED FREE WITH POSTAGE REPAID

IF YOU WRITE TO US AND ANSWER THESE 2 QUESTIONS:
1st.—How Much Stock Of All Kinds Do You Own? 2nd.—Name Paper In Which You Saw This Offer.

Address Owners at Once..INTERNATIONAL STOCK FOOD CO., Minneapolis, Minn.



Largest Stock Food Factory in the World.
Capital Paid In \$2,000,000.00.
This Engraving Shows Our New
Minneapolis Factory.
It Contains 18 Acres of Floor Space.
Also Large Factory at Toronto, Canada,
Containing 50,000 Feet of Space.

BIG PROFIT IN HOGS, CATTLE AND HORSES 3 FEEDS FOR ONE CENT

INTERNATIONAL STOCK FOOD CO., Minneapolis, Minn.

DAVID CITY, NEBRASKA.

GENTLEMEN:—I have used your "International Stock Food" for several years for my Hogs, Cattle and Horses. No person can afford to get along without it providing he wants to save feed, have healthy, thrifty, clean good looking animals with big profit. I could hardly raise hogs without it. For pigs that are weaned it is the best that I ever used, as even the runts at once commence to grow as if by magic when fed "International Stock Food" every day.

Respectfully yours,

MATT MILLER.

We Have Thousands of Similar Testimonials. We Will Pay You \$1000 If They Are Not the True Experience of Practical Feeders. Beware of Cheap and Inferior Imitations and Substitutes. Do you desire any further information about "International Stock Food," etc., or want a copy of our fully illustrated stock book containing 150 Engravings from Life that cost over \$2000 Cash and which contains an Extra Fine Veterinary Department? If Your Letter Requests it the Stock Book will be mailed free. Address.....INTERNATIONAL STOCK FOOD CO., Minneapolis, Minn., U. S. A.

DO NOT USE ANY OF THESE PREPARATIONS

Except with the understanding that You Are To Have Your Money Refunded promptly in any case of failure. We authorize our One Hundred Thousand Dealers to sell every package or bottle on the "Spot Cash Guarantee" which is printed on every label. We positively guarantee that our "Spot Cash Guarantee" will be lived up to in every detail.

"INTERNATIONAL STOCK FOOD" "INTERNATIONAL HEAVE CURE" "INTERNATIONAL HOOF DISTENT" "INTERNATIONAL STIMUL PINE HEALING OIL"
"INTERNATIONAL POULTRY FOOD" "INTERNATIONAL COLIC CURE" "INTERNATIONAL PHENO-CHLOR" "INTERNATIONAL QUICK CLEVER"
"INTERNATIONAL HORSE KILLER" "INTERNATIONAL HARNESS SOAP" "INTERNATIONAL COMPOUND ABSORBENT" "INTERNATIONAL COUGH AND LUNG SYRUP"
"INTERNATIONAL WORM POWDER" "INTERNATIONAL FOOT REMEDY" "INTERNATIONAL GALL CURE"

Prepared and Sold on a "Spot Cash Guarantee" by INTERNATIONAL STOCK FOOD CO., Minneapolis, Minn.

BETTER READ THIS

As it is positively the best
Shorthorn Offering
 you ever ran across.



My stock won prizes
 at the Hagerstown Fair,
 the greatest Maryland
 show.

I am offering Cows and
 Bull Calves at ridicu-
 lously low prices, because I will sell
 them when I see only a small profit. I
 can raise a Shorthorn almost as cheaply
 as a scrub can be raised. Remember I
 have as well-bred stuff in Shorthorns as
 will be found in the United States, and
 will not be undersold, all things con-
 sidered.

Percherons

of the best type and blood, as well as

Berkshire Hogs

always on hand at low figures.

COME AND INSPECT MY STOCK.

JOHN F. LEWIS,
 LYNNWOOD STOCK FARM, LYNNWOOD, VA

REGISTERED CATTLE.

Short Horns.

Polled Durhams.

Red Polls.

Who wants a few good Bulls, Heifers or Cows?
 Choice herd, bred and reared in the mountains
 of Western Texas, below the fever line. Healthy,
 hardy stock. Write us your wants. Or will sell
 entire herd of three hundred head, and rent
 fine ranch reasonably. Splendid Opportunity.

LANDA CATTLE COMPANY,
 New Braunfels, Texas.
 Breeders of Registered Cattle Only.



COOK'S CREEK HERD SCOTCH - TOPPED SHORTHORNS...

Herd Headed by Governor
 Tyler, 1884th, 1st prize aged bull at Radford Fair,
 Young Bulls and heifers for sale. Inspection
 and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va

REGISTERED

SHORT HORN BULL,

"PLAIN DEALING," for sale to avoid in-
 breeding. Bred by Cottrell Bros., Hoosick
 Falls, N. Y., and is of well established milking
 strain. Solid deep red and of fine form
 and finish. Weight, 1550 pounds. Price, \$75.

JOS. WILMER, Rapidan, Va.

WITH THE ADVERTISERS.

A new advertiser in this issue, is
 Mr. P. H. Gold, Winchester, Va. He
 is offering some finely bred Berkshires
 and a herd boar.

The Breeders' Gazette has a full
 page ad elsewhere in this number. All
 stockmen should take this paper.

J. B. Cretors is offering a storm
 apron and hood. Look up his adver-
 tisement.

The Star Pea Machine is advertising
 a Pea Huller which is guaranteed to
 give satisfaction.

Meyer & Jehne have several ads in
 this issue which are sure to interest
 scores of our readers.

Charles Veirs is closing out his
 Shorthorns. Look up his offering.

Clairmont Farm is offering bargains
 in poultry and turkeys.

A number of very desirable farms
 are offered for sale in this issue.

Shorthorns, Percherons, and Berk-
 shires are advertised by John F. Lewis.
 The Bateman Mfg. Co. maker of the
 celebrated "Iron Age" Implements and
 tools, start the season's advertising
 with this issue.

The Hook-Hardie Co. is offering its
 Spray Pumps in an attractive ad on
 another page.

The Landa Cattle Co. would like to
 communicate with stockmen wanting
 some pure-bred bulls.

Thoroughly responsible agents and
 solicitors are wanted by Mr. J. B.
 Crabtree.

A splendid Majiolini Red Poll Bull
 is offered by Mr. H. B. Arbuckle. Look
 up the ad.

Mr. Ed. S. Schmid would like to mail
 his beautiful catalogue of all kinds of
 fanciers stock and poultry to interested
 parties.

Angora Goats, Cheshire Hogs and
 Ponies are advertised by Dr. Wm. C.
 Johnson, Frederick, Md. Send for a
 circular.

Dan Patch, 156 broke another record
 on Nov. 17th, at Oklahoma City by
 going the mile in 2.03 on a half mile
 track. A full page ad of him will be
 found in this issue. Refer to the ad
 and get his picture.

The Columbia Incubator Co. is
 among the new advertisers in this
 issue. Look up the ad.

The Electric Wheel Co. has a couple
 of ads on another page.

The Cyphers Incubator Co. starts
 the season's advertising with this
 issue. Send for its new catalogue.

The Virginia-Carolina Chemical Co.
 have an attractive ad in another
 column.

The German Kali Works resume
 their advertising in this issue.

A charitable young lady, visiting a
 sick woman, inquired, with a view to
 further relief, as to her family. She
 asked: "Is your husband kind to you?"
 "Oh, yes, Miss," was the instant re-
 sponse, "he's kind—very kind. Indeed,
 you might say he's more like a friend
 than a husband."

REGISTERED

SHORTHORNS

A few choice BULL CALVES 6 months old
 for sale at reasonable prices. Write me for
 further information. I. S. EBERLY, Glen-
 dale, Va.

WILLOW GLEN

Short = Horns.

Special offering of two and three year old
 heifers with calves at side. Also nine head
 of splendid young bulls. Prices low if sold
 at once. Inspection invited. DR. D. M.
 KIPPS, Front Royal, Va.

Springwood Short-Horns

Young stock for sale, sired by Royal Chief,
 No. 185432; he by Imported Royal Stamp,
 Champion Bull at Ohio State Fair this year.
 Spring and fall Poland China Pigs and
 shoats; sired by Coler's Perfection. I will
 sell this hog at a bargain. Call on or write
 WM. T. THRASHER, Springwood, Va.

REGISTERED

SHORTHORNS.

Having concluded to close out my herd, I
 offer for sale, 6 LARGE COWS and CALVES
 from Imp. Josephine Marquis of Butte, 116453;
 also a nice lot of heifers. CHAS. VEIRS,
 Rockville, Md.

ELLERSLIE FARM

Thoroughbred Horses

AND SHORTHORN CATTLE,

Pure Southdown Sheep and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON,
 CHARLOTTESVILLE, VA.

OAK-HILL FARM

**SADDLE HORSES, JERSEY
 AND ABERDEEN ANGUS CAT-
 TLE, BERKSHIRE, POLAND
 CHINA, RED JERSEY, and TAM-
 WORTH HOGS, FOR SALE**

WHITE FOR PRICKS.

Shipping point Oak-Hill, Va., (Station on farm)
 on D. & W. Ry. 15 miles west of Danville, Va.

SAM'L HAIRSTON,

Wenona, Va.

PLEASANT VALLEY STOCK FARM

Shorthorn

calves from fine milking stock.

Yorkshire Pigs

of prolific breed.

JAMES M. HOGE, Hamilton, Va.

COTTAGE VALLEY STOCK FARM.

FINE STOCK FOR SALE LOW

7-8 and 15-16 GRADE ANGUS BULLS and HEIFERS from 6 months to 2 years old. One Bull calf, half Angus and half Short-Horn. Fine family Milk Cows fresh, young and gentle. One pair splendid 1,200-pound Bay Mares 6 years old, first-class all-round farm teams, and very good roadsters. One fine SADDLE MARE, 4 years old, very handsome and stylish, every gait, Hackney and Hambletonian. One beautiful DRIVING MARE, coming 4 years old, three-fourths Hackney, one-fourth Hambletonian. These Mares are well bred and nice enough for any one. Pure-bred Poland-China Pigs at \$5 each. Pure-bred Llewellyn Setter Pups, \$5 each. Silver-Laced Wyandotte Cockerels and Pullets at \$1 each.

W. M. WATKINS & SONS, Saxe, Va.

ANGUS HERD BULL FOR SALE

To prevent inbreeding, we offer our herd bull, PAGAN, 2846; sire, BARONET NOSEGAY, 13869; dam, PRINCESS ERICA OF LINN, 10369. Pagan is 7 years old, weight, 2,000 pounds, vigorous, active, perfectly broken, an excellent sire. Address ROSE DALE STOCK FARM, Jefferson, Va.

MONTEBELLO HERD

ABERDEEN-ANGUS CATTLE.

FOR SALE—Registered Bull calves from 3 months old, up.

L. H. GRAY, Orange, Va

... REGISTERED ...

**ANGUS BULLS,
BERKSHIRE PIGS, of
Biltmore Strains. J. P
THOMPSON, Orange Va.**

To reduce my herd of

JERSEYS

I will sell 4 or 5 first class family cows, now in calf, at very low prices; also 2 Reg.

BULL CALVES,

4 to 6 mos. old. One is a son of RIOTA'S PRIMA DONNA, tested 17½ lbs. butter in 7 days; the other, a son of LADY MADELINE, who gave 200 lbs. more milk per month than her own weight. Price, \$50 each; also 10

JERSEY HEIFERS,

from 6 to 15 mos. old, from my very best cows, and no better in Virginia, for \$30 each. These cattle are in fine condition, kindly handled, and will make valuable animals. A. R. VENABLE, JR., Manager, Farmville, Va.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

MAGAZINES.

It is impossible even to summarize in a single paragraph the many and varied attractions which The Youth's Companion announces for the coming year.

A series of articles planned to interest especially the forty-five millions of Americans who look directly to the soil for their subsistence will treat of "New Fields for Young Farmers," "The Sanitation of the Farm," "The Future of American Cotton," "How Women Make Money on the Farm," etc.

Seven serial stories and 250 short stories by the most talented and popular American writers of fiction will form part of the contents of the new volume for 1905.

Full Illustrated Announcement describing the principal features of The Companion's new volume for 1905 will be sent, with sample copies of the paper, to any address free.

The new subscriber who sends \$1.75 now for a year's subscription to The Companion receives free all the issues of The Companion for the remaining weeks of 1904, also The Companion "Carnations" Calendar for 1905, lithographed in twelve colors and gold. THE YOUTH'S COMPANION, 144 Berkeley street, Boston, Mass.

There is always one by which the rest are measured. In the magazine world that one has always been and is to-day The Century. Ask writers where their best productions are first offered; ask editors which magazine they would rather conduct; ask public men where articles carry most influence; ask artists where they would prefer to be represented; ask the public what magazine is the first choice among people of real influence, and the answer to each question is the same: "The Century." Are you going to have the best in 1905?

The new volume of The Century begins with November. Yearly subscription \$4. A year's subscription and the twelve numbers of the preceding year—complete serials, novels, stories, Jack London's "The Sea-Wolf," Dr. Mitchell's "Youth of Washington," etc., etc.—back numbers and subscription for coming year, \$5. THE CENTURY CO., Union Square, New York.

The December *Delineator*, with its message of good cheer and helpfulness, will be welcomed in every home. The fashion pages are unusually attractive, illustrating and describing the very latest modes in a way to make their construction during the busy festive season a pleasure instead of a task, and the literary and pictorial features are of rare excellence. A selection of Love Songs from the Wagner Operas, rendered into English by Richard de Gallienne and beautifully illustrated in colors by J. C. Leyendecker, occupies a prominent place, and a chapter

Swift Creek Stock and Dairy Farm

Has for sale a large number of nice young registered A. J. C. C.

JERSEY BULLS AND HEIFERS.



None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 4 to 6 months old, \$25; Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

T. P. BRASWELL, Prop., Battleboro, N. C.

REGISTERED JERSEY BULL.

The magnificent 2 year old REG. JERSEY BULL, "Joe K." Finest blood, kind and without a blemish. Also pure bred BERKSHIRE PIGS 1 and 2 mos. old; fine as silk, and sired by the grand registered boar, "Brandywine." Also two pure bred 8 mos. old Berkshire brood sows, supposed to be with pig by the boar "Brandywine." Prices reasonable. Satisfaction guaranteed or money refunded. Address JAMES N. SAUNDERS, Brandywine, Caroline county, Va.

THOROUGH-BRED...

Berkshire Boars, Dorset Buck Lambs, Jersey Bull Calves.

All stock in best of condition and guaranteed as represented.

F. T. ENGLISH, Centerville, Md.

THE WOODSIDE HERD.

FOR SALE; 2 grandly bred

JERSEY BULLS,

1 year old. For prices and description, address,

DAVID ROBERTS, Moorestown, N. J.

EVERGREEN DAIRY AND STOCK FARM

OFFERS FOR SALE

REGISTERED JERSEY BULL

2½ year old, son of "Riot's Prima Donna," who tested 17½ lbs. of butter in 7 days.

BROWN LEGHORN CHICKENS, 65 cents each; healthy and high bred birds.

W. B. GATES, Rice Depot, Va.

FOR SALE, TWO CROSS-BRED

Jersey-Alderney

Cows: one fresh, other milking now. Pedigrees furnished. Hargains. M. R. WALLACE, 24 N. Laurel street, Richmond, Va.

Woodland Dorsets.

At 6 great State Fairs this year, we won every first, but two. At St. Louis, we won second on Ewe Lamb and third on Ram Lamb, against the strongest Dorset Show ever seen in America.

J. E. WING & Bros., Mechanicsburg, O.

DORSETS AND HEREFORDS

H. ARMSTRONG, Lantz Mills, Va.

Mention THE SOUTHERN PLANTER in writing.

in the composers' Series relating the Romance of Wagner and Cosima, is an interesting supplement to the lyrics. A very clever paper entitled, "The Court Circles of the Republic," describes some unique phases of Washington social life from an unnamed contributor, who is said to write from the inner circles of society. There are short stories from the pens of F. Hopkinson Smith, Robert Grant, Alice Brown, Mary Stewart Cutting and Elmore Elliott Peake, and such interesting writers as Julia Magruder, L. Frank Baum, and Grace MacGowan Cooke hold the attention of the children. Many Christ has suggestions are given in needlework and the Cookery pages are redolent of the Christmas feast. In addition there are the regular departments of the magazine, with many special articles on topics relating to woman's interests within and without the home.


The Review of Reviews for December presents a series of contributed articles of unusual variety and interest. Mr. Walter Wellman writes on "The United States and the World's Peace Movement." Mr. Winthrop L. Marvin describes the work of the Merchant Marine Commission, appointed during the last session of Congress to investigate American shipping conditions in our great ports. The four "men of the month" chosen as the subjects for character sketches are Chief Engineer William Barclay Parsons, of the New York Rapid Transit Commission; President David Rowland Francis, of the Louisiana Purchase Exposition; Chairman George B. Cortelyou, of the Republican National Committee, and Governor-elect William L. Douglas, of Massachusetts. Mr. William C. Edgar gives an interesting account of the Ojibway Indians' play of "Hiawatha," as presented at Desbarats, Ontario, on the shores of Georgian Bay; the article is illustrated from photographs of the Indian players in costume. Mr. Clarence H. Poe tells the story of the remarkable rejuvenation of rural North Carolina. Illustrating his article with pictures showing the great advance in the educational appliances provided by the State for both whites and blacks, "The Hawaiian Sugar Product" is the title of a valuable illustrated article by Lewis R. Freeman. Mr. W. J. Henderson, the well-known musical critic, contributes a forecast of the musical season in New York, just opening, with portraits of the conductors and several of the most famous stars. Mr. H. M. Suter outlines the work of the American Forestry Congress to be held at Washington in January. Mr. Ernest Knauff contributes an article entitled "Modern Picture-Book Children," in which he sets forth the characteristics of the new group of illustrators of childhood who are now claiming so much attention in the illustrated magazines. There is a brief

IRON AGE

It is always the result of using Iron Age implements. Being built to get the greatest possible results for labor expended, they do farm and garden work better and quicker than any tools made. A new Iron Age implement, and one that is very successful, is No. 19—Wheel Plow and Cultivator. It is simple, strong and light running. Combines the best wheel plow and cultivator ever produced. Like all other Iron Age implements, it's guaranteed to give entire satisfaction.

You can make more money, save more, and lessen your work, if you send for the Iron Age Book for 1905. It describes Seed Drills, Wheel Hoes, Riding Cultivators, Potato Planters, Horse Hoes and Cultivators. Give you the prices and all details. The book is free. Write at once.

No. 19 Iron Age Wheel Plow and Cultivator



Larger Crops at Less Cost

BATEMAN MFG. CO.,
Grenloch, N. J.
BOX 167.

FOREST HOME FARM

Produces Four Crops—viz.,

**Jerseys, Jersey Cream,
Berkshires, and Berkshire Sausage,**

In producing Cream we have Skim Milk by the hundreds of gallons to feed our Hogs. Then we buy Germ O.1 Meal by the car load. Now you know why our Hogs grow so rapidly, and are so in demand. Write

FOREST HOME FARM, Purcellville, Va.

FOR SALE.
10 Registered Jersey Heifers
Due to calve this fall and winter.

Several Registered HEIFER CALVES, four months old, at \$25 each, if taken this month, and a few BULL CALVES at farmers' prices.

Also several GUERNSEY BULL CALVES, BERKSHIRE BOARS, SOWS and PIGS.

Two grand guard Dogs (Danes), 6 months old, at \$20 each.

M. B. ROWE & CO., Fredericksburg, Va.

:: SOME VERY FINE ::

RED POLLED

Calves, entitled to registry, for sale; also a few very good

Poland China Pigs

whose breeding cannot be excelled. Only one SHETLAND PONY for sale now.

ARROWHEAD STOCK FARM, SAM'L B. WOODS, Prop., Charlottesville, Va.

IS YOUR FARM FOR SALE?

R. B. CHAFFIN & CO., (INC.) Richmond, Virginia.

EDGEWOOD STOCK FARM.

Red Poll Bull Calf.

Majorini is greatest bull of breed. This calf carries his blood. His dam also traces back to Rufus. Can't you trust this blood? Calf now ready. You men in Virginia order quick if you want to get a promising youngster. H. B. ARBUCKLE, Maxwelton, W. Va.

If so, list it with us. No sale, no charge. Largest list of farms for sale in Virginia. Write for Free Catalogue.

Castalia Herefords

A competent judge of International experience, who has recently inspected the CASTALIA HEREFORDS, pronounces of them:

"You have made a convincing demonstration here of two things; of the value of your judgment in combining blood lines and your capacity to make steady progress toward the ideal that you hold, and you have demonstrated the superior fitness of Hereford cattle for Virginia grass, and of Virginia grass for Hereford cattle."

This opinion, unsolicited, prize, and brought the Olive great deep satisfaction to years to found a Hereford Virginie," second to none quality and breeding, are readers to my advertise- numbers of the SOUTHERN

I have recently sold year rico Counties, and am now prices and information at any time in the past



came to me as a complete sur- Branch of victory and a know that my efforts of Breeding Herd in "Ole in the United States in bearing fruit. I refer ments in the last three PLANTER pp. 633, 703, 763. ling bulls to Essex and Hen- receiving more inquiries for about Hereford cattle than two years.

Every farmer who owns cattle WANTS Herefords, and NOW is the time to buy; cat- tle have reached low tide, and cattle men all over the country expect a gradual rise in prices of both pure bred breeding stock and beef stock. The Hereford bulls crossed on the native cows of Virginia make the best veals, the best stockers and feeders and the best butchers' stock on the market. I have some yearling bulls which are beauties and at rock bottom prices. ALSO FOR SALE

Bull Calves dropped this fall, and Breeding Cows in calf. A few Cows with calf at foot. Call and make your selection or write.

MURRAY BOOCOCK,
 Keswick, = = = = = = Virginia.

account of the trials of the New York Central's electric locomotive at Schenectady last month, with two very interesting illustrations from photographs. "What Port Arthur means to Japan" is clearly set forth by Adachi Kinnosuke, with a map of Port Arthur and its surrounding defenses. Fifteen pages in this number are devoted to the season's new books, including portraits of many of the authors and other illustrations. In the editorial department, "The Progress of the World," there is a full discussion of the results of the elections, of the North Sea episode and its bearings on Anglo-Russian relations, of the latest developments in the far East, and various other matters of international interest.

Richardson's charming pictures in color, illustrating that jolly new serial, "Queen Zixi of Ix," by Frank Baum, are a notable feature of the December *St. Nicholas*, as worthy a Christmas stocking number as any child could wish. There are two colored insets this month, besides several illustrations on the text pages of "Queen Zixi of Ix;" and the pretty fairy story continues to tempt the older members of the family to monopolize the magazine till "Queen Zixi" at least is read.

Two other serials now running in *St. Nicholas* are probably the most notable and valuable that have ever been offered by a periodical for young people. "How to Study Pictures," by Charles H. Caffin; and "The Practical Boy," by Joseph H. Adams, are notable and valuable. There are reproductions this month of Albrecht Durer's "The Adoration of the Magi" and Leonardo da Vinci's "Virgin of the Rocks," and of Wohlgenuth's "The Death of the Virgin" and Raphael's "Madonna degli Anselmi," to illustrate Mr. Caffin's discussion of these artists and their work. Mr. Adams tells this month, so clearly and helpfully that any handy boy can work out the suggestions, how to fit up a boy's room, book-tower, table, desk, chairs, bed, even to the wall decoration. The illustrations offer hints also for those interested in novel and artistic furniture.

"Little Pete," the story of a carrier pigeon that traveled eight thousand miles to reach home, is a true tale, its author having owned Pete's grandfather and being well acquainted with the wonderful ways of Pete and other carrier pigeons.

Strikingly appropriate to the election season is the novelette in the Christmas number of *Lippincott's Magazine*. Its author is Alden March, one of the Editors of the *Philadelphia Press*, and its title is "A Darling Traitor." In it there is a deft commingling of love and politics and a deep sub-stratum of real humor. The scene at dinner between the priest and a crooked politician is intensely dra-

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are being used not alone in carriages, autos, wagons and sleighs, but are highly recommended by physicians for home use, and are being used extensively.

They burn Lehman Coal which costs only 2 cents for a day's continuous heat, and from which there is no smoke nor danger of fire.

250,000 Lehman Heaters are in regular use by horsemen, physicians, farmers, etc., who highly recommend them.

Beware of imitations. Remember it must be a LEHMAN to be the Standard and BEST. Refuse substitutes.

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I OFFER AT RIGHT PRICES THE FOLLOWING STOCK:

One yearling **HOLSTEIN-FRIESIAN BULL**,

Seven **BULL CALVES** (same breed), 2 to 6 months old

(These calves are from heavy milkers),

Six **BERKSHIRE SOWS** (1 year old),

Ten **BERKSHIRE SOWS** (5 months old).

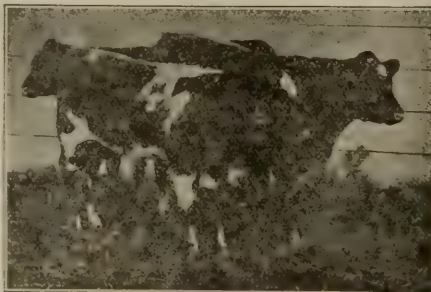
All of the above will be registered and transferred to the buyer.

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Reds and roans. Can furnish bull calves or cows and heifers in car lots. **SOUTHDOWN SHEEP, POLAND CHINA HOGS.** R. F. D. 7, Harrisonburg, Va.

Deep Creek, Va.,
October 8, 1904.
JOHN S. FUNK, Esq.:
Dear Sir,—I received the calf on the 6th, safe and sound. Every one that has seen him says he is the finest and largest for his age that they ever saw. I would like for you to have him registered for me when he is old enough. I am highly pleased with pig and calf both.
Yours truly,
W. T. CULPEPPER.

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The Property of WESTMORELAND DAVIS, Esq.

LARGE HERD OF FASHIONABLY BRED REGISTERED ANIMALS, INCLUDING COWS IN THE ADVANCED REGISTRY. HERD HEADED BY THE BRILLIANTLY BRED IMPORTED BULL,

TOP NOTCH No. 9023.

The Dam of this Bull, Imported ITCHEN BEDA, took 1st prize at the "Park Royal" Show in England in 1902, and her daughter ITCHEN BEDA II, took the same honors in 1904: further, Imported TOP NOTCH'S Dam, ITCHEN BEDA, entered the official advanced Registry of the American Guernsey Cattle Club this year with a record FOR THE YEAR of 10642.10 lbs. of milk; 518.70 lbs. of butter fat, equivalent to 640.15 lbs. of butter.

The Pedigree of Imported TOP NOTCH, with some of the achievements and prizes won in the direct line of his ancestry, are given below:

TOP NOTCH, 9023, bred by Sir Henry Tiebborne, of England, was sired by Rival, 1343 E, and is out of imp. Itchen Beda, 15627. His father, Rival, by Rival of Mont March, 1164, P. S., out of Clatford Gentle, 4746, E. (first prize English Royal, B. & W. E. and Royal C., 1900). His mother, Itchen Beda, 15627 (see record above); she by Loyal of Hunguets, 978, P. S. (first prize, 1896, second prize, 1898); sire of Itchen Lady, Hayes Lily du Prael. His extended pedigree is impossible in this space, but will be furnished if desired. It goes back to winners of the Queen's prizes, as well as to members of her late Majesty's Prize Herd.

MORVEN PARK is situated in Loudoun County, Virginia, and because of its climate and soil is peculiarly adapted to the production of the highest class of animal life, and particularly to supply the needs of Southern breeders of pedigreed cattle.

REGISTERED and TUBERCULIN TESTED animals for sale, including a fine lot of BULL CALVES at reasonable prices.

For further particulars, Address

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LEESBURG, LOUDOUN CO., VA.**

matic, while the character work—from freckled-faced, devil-may-care Joe, the office boy, to the irresistible Edith North—is undeniably strong. It is predicted that "A Darling Traitor" will appear on the stage before long.

General Charles King leads the shorter fiction with one of his inimitable Indian war stories. This is called "The Boy that Couldn't Stand Fire," and it begets the thrill which goes with a tale of valor that rings true. A charming Christmas story by Phoebe Lyde is "The Abbot of Bon Accord." Its fanciful theme and delicate treatment adapt themselves to the holidays. Baroness von Hutten contributes one of her delightful "According to Lady Moyle" stories. This time it is "About Mademoiselle Ziska," a snake-charmer, who falls victim to the fascinations of Lady Moyle's butler and almost causes his downfall. "A Crustacean Courtship," by Mabel Nelson Thurston, is a clever tale of country life in which love and lobsters take part. Arthur Hendrick Vandenburg has a special gift for the writing of entertaining "Trust" fiction. In "Barlow and the Octopus" he tells how a young fellow lacking business experience but possessing considerable acumen, comes out ahead in a deal with the "Gas-Meter Combine." "Billets-Doux," another Christmas story, is by Thomas Cobb. In this some love-letters-in-wrong-hands are involved and make a breezy tale. It is the time of year when a "bargain" seems specially appealing." So it does to the girl in Clinton Dangerfield's story entitled "The Shears of Destiny." In this case a rich husband is part of her bargain.

A momentous paper on "The Regular and the Savage" is written by a Lieutenant of the United States Army, in the Philippines. This is so radical as to be likely to provoke both confirmation and denial.

Harper's Illustrated Weekly is still one of the best of the illustrated papers both in its pictorial and literary matter. The opening article by the Editor is always full of matter worthy of careful reading and suggestive of thoughts on subjects of present moment.

The following is a mere suggestion of the contents of the November *Woman's Home Companion*: "Election-Night in a Great Newspaper Office," by Hartley Davis; "The Rise and Fall of Sully, King of Cotton," by Henry Irving Dodge; "A Visit to Sod-House Land," by Charles M. Harger; "Saint Patrick's Purgatory," by Seumas MacManus; "The Strike and the Housewife," by Henry Harrison Lewis; "The College Girl's Memory-Book," by Martha Cobb Sanford; "The Girl and the Game," by Ralph Henry Barbour; "The King of Diamonds," by Louis Tracy; "How Wild Animals Prepare for Winter," by Ernest Har-

**ALL EMERGENCIES
IN THE FAMILY
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FOR MAN
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SLOAN'S LINIMENT
**KILLS PAIN ALL
KILLS GERMS DEALERS**

YORKSHIRE PIGS

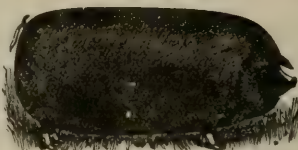
Our spring pigs have all been sold and we are now booking orders for

FALL PIGS

for November and December delivery. The great display of Large Yorkshires at the recent Live Stock Show at the World's Fair, shows the growing popularity of this profitable bacon breed.

Also **Jersey Bulls and Heifers,**
from our high testing herd.

BOWMONT FARMS. Salem, Va.



POLAND CHINAS

I am selling them fast, but still have a few choice pigs to sell and bred sows left that I now offer at reduced prices in order to reduce my stock before Feb. and March litters arrive. I do not believe there is a better bred herd of Poland Chinas in Virginia than mine, and their individuality is so good that I am willing to ship, subject to return, at my expense if not exactly as represented. My prices are lower than ever, for this month. Write for prices and visitation slip.

J. F. DUKRE, Jr., Birdwood, Albemarle Co., Va.

50 POLAND-CHINA AND TAMWORTH

pigs, 3 and 4 months old, eligible to registration \$6.50 will buy the best of them. The first orders will get the pick of the lot.

A few nice boars ready for service, also for sale.

J. C. GRAVES, Barboursville, Orange Co., Va.

old Baynes; "Correct Clothes for School-Girls," "Frocks for Little Folks" and "Smart Fashions for Early Winter," by Grace Margaret Gould. It is a valuable, up-to-date, progressive magazine. Published by The Crowell Publishing Company, Springfield, O.; one dollar a year; ten cents a copy.

The *Cosmopolitan* is especially noteworthy for its illustrations which are beautifully executed.

Caller—I never saw two children look so much alike. How does your mother tell you apart?

One of the Twins—She finds out by spankin' us. Dick cries louder'n I do.

REPORTS.

U. S. Department of Agriculture, Washington, D. C. Annual Report of the Secretary of Agriculture, 1904.

The Secretary of Agriculture has transmitted his Eighth Annual Report to the President.

In opening his report the Secretary enumerates some of the more important features of the year's work. Among them are extensive co-operation with agricultural stations; the taking of preliminary steps to conduct feeding and breeding experiments; the war waged against the cotton boll weevil and against cattle mange; plans for education of engineers in road building; the production of a hardy orange, a hybrid of the Florida orange and the Japanese trifoliata; valuable research in successful shipping of fruit abroad; the value of nitrogen-fixing bacteria; successful introduction of plants suited to light rainfall areas; establishment of pure food standards; the extension of agricultural education in primary and secondary schools; the extension of instruction to our island possessions to enable them to supply the country with \$200,000,000 worth of domestic products, now imported from abroad.

He then proceeds to discuss the place of agriculture in the country's industrial life.

AGRICULTURE AS A SOURCE OF NATIONAL WEALTH.

The corn crop of 1904 yields a farm value greater than ever before. The farmers could from the proceeds of this single crop pay the National debt, the interest thereon for one year, and still have enough left to pay a considerable portion of the Government's yearly expenses. The cotton crop, valued for lint and seed at 600 millions, comes second, while hay and wheat contend for the third place. Combined, these two crops will about equal in value the corn crop. Notwithstanding the wheat crop shows a lower production than any year since 1900, the farm value is the highest since 1881. Potatoes and barley reached their highest production in 1904; save in 1902 the oat crop was

'Twas the night before Christmas



"I'll give my boy a

STEVENS

I know he would rather have that than anything else in the world, and it's a good thing for any boy to have—it will quicken his eye and judgment, and strengthen his nerve."

"It's about time Dad got a

STEVENS

if only for use in protecting our stock, and for the feeling of safety it gives. It generally happens that you feel the need of a gun most when you haven't one, and as it's not much use 'closing the stable door after the horse is stolen,' I guess I'll buy him one now."

"Sister always did want a

STEVENS

and why shouldn't she have one—it's fine sport, good exercise, and rounds out and strengthens a girl's character and nerve. The girl who knows how to handle a gun is the girl with the quick eye, elastic step and easy grace, with her wits always about her."

"Uncle Joe will be delighted—it's a

STEVENS

He's a man that has handled a gun from boyhood. When he first tried a 'Stevens' he said: 'might as well stop right here—couldn't get a better fire stick than this if I tried 'till doomsday.'"

A great book of 140 pages of interesting articles on hunting, target shooting, etc., FREE. Enclose 4c. to cover postage.
J. STEVENS ARMS AND TOOL CO.,
559 Pine Street, Chicopee Falls, Mass., U.S.A.

A surprise for everybody—a "STEVENS"

ANGORA BUCKS.

Now is the time for your Angora Bucks.

5 two-year old, 5 three-year old, and 15 Kid Bucks all registered or high-grade ANGORA. Can spare a very few ANGORA DOES with these Bucks if wanted. This lot is sired by our fine reg. California and Kansas Bucks. You need new blood in your flocks. Don't let your Goats degenerate, but get a new buck.

DIAMOND V RANCH,

Rock Castle, Va.

EDGEWOOD STOCK FARM.

DORSETS.

Our FALL LAMBS are here, friends, and they are crackjacks. Our Imported Fwes started lambing October 15th. Better give us your orders now. Last year many of you were too late.

J. D. and H. B. ARBUCKLE, Maxwellton, Greenbrier, Co., W. Va.

When corresponding with our advertisers always mention the Southern Planter.



never so large by 60 million bushels. The present crop of rice promises a yield of 900 million pounds—300 million more than ever before.

Horses and mules reach the highest point this year, with an average value exceeding 1,354 million dollars. On the other hand cattle, sheep, and hogs all show a slight decline.

The steady advance in poultry leads to some astonishing figures. The farmers' hens now produce 1½ billions of dozens of eggs and at the high average price of the year the hens during their busy season lay enough eggs in a single month to pay the year's interest on the national debt.

After a careful estimate of the value of the products of the farm during 1904, made within the census scope, it is safe to place the amount at 4,900 million dollars after excluding the value of farm products fed to live stock in order to avoid duplication of values. This is 9.65 per cent. above the produce of 1903, and 31.28 per cent. above that of the census year 1899.

Some comparisons are necessary to the realization of such an unthinkable value, aggregating nearly five billions of dollars. The farmers of this country have in two years produced wealth exceeding the output of all the gold mines of the entire world since Columbus discovered America. This year's product is over six times the amount of the capital stock of all national banks. It lacks but three-fourths of a billion dollars of the value of the manufactures of 1900, less the cost of materials used; it is three times the gross earnings from the operations of the railways, and four times the value of the minerals produced in this country.

The year 1901 keeps well up to the average of exports of farm products during the five years 1899-1903, amounting to over 859 millions, while the average for the five years was nearly 865 millions. During the last 15 years the balance of trade in favor of this country, all articles considered, exceeded 4,384 million dollars, but taking farm products alone, these showed a balance in our favor of more than 5,300 millions.

Reviewing the increase in farm capital the Secretary estimates it conservatively at 2,000 million dollars within four years—this without recognizing the marked increase in the value of land during the past two years. The most startling figures shown as illustrating the farmers' prosperity are those presented by deposits in banks in typical agricultural States. The Secretary selects for this illustration Iowa, Kansas, and Mississippi. Taking all kinds of banks, National, State, private, and savings, the deposits increased from June 30, 1896, to October 31, 1904, in Iowa, 164 per cent., in Kansas 219 per cent., and in Mississippi 301 per cent.—in the United States 91 per

HOG & BOOK & FREE!

Latest Revised Edition.

"HOG LOGY," my book about hogs, will be sent FREE if you mention Southern Planter when writing for it. Many new and important subjects have been added, and some of those treated are: The hog a money maker, statistics, history, illustrations and descriptions of breeds, associations with address of secretaries, advice on selecting location, breed, breed sows, boar, etc.; pedigrees, quarters, foods, inbreeding, marketing, curing pork, fall pigs, exhibiting, anatomy of the hog, illustrated; diseases—more than fifty of the ailments to which the hog is subject plainly diagnosed, with cause, symptoms and treatment, etc., etc.

\$1,000 Reward

If this is not the best hog book out. It was the first book of the kind ever issued for gratuitous distribution, the first edition having been issued more than 20 years ago, and it is the only book of the kind devoted exclusively to the hog, and written by a veterinarian and swine specialist.

I PAY FOR ALL HOGS THAT DIE

when my Remedy is fed as a preventive. Full particulars regarding this insurance proposition in "Hogology," its record for 23 years proves it to be the most successful hog remedy as well as the oldest.

Twenty-five pound can, \$12.50; 12½ lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

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TRADE MARK

POLAND-CHINAS.



I have a limited number of Pigs by my fine Boars, Gray's Big Chief, 57077, and Victor G, 57076, and can furnish pairs not skin or related to those previously purchased. Young Boars and Sows if all ages. Send to headquarters and get the best from the oldest and largest herd of Poland-Chinas in the State at one-half Western prices. Address J. B. GRAY, Fredericksburg, Va.

GRAY'S BIG CHIEF, 57077.

8 REGISTERED BERKSHIRE BOARS,

READY FOR SERVICE,

FOR SALE.

Pigs of both sexes; and also

HERD HEADER Herd VI, after Dec. 20th, He is two years old, and of best blood.

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THE - OAKS - STOCK - FARM.

A. W. HARMAN, Jr., Treasurer State of Virginia, Prop. Richmond, Va.

We breed and ship the FINEST STRAINS of

Large ENGLISH BERKSHIRES

for less money than any firm in the South, quality considered. Every pig shipped possesses individual merit. Pedigree furnished with all stock. Kill or sell your critter and buy hogs that will pay. For prices and description address ALEX. HARMAN, Mgr., Lexington, Va.

25 Tons of Choice Timothy Hay For Sale.



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We Have Become Headquarters for Everything We Breed.

BILTMORE JERSEYS.—The American home of the Great Golden Lads—a family that has produced great milkers, with the best udders and show-yard records that the world has ever seen. Our bulls are out of dams owned and tested in the Biltmore Herds, and buyers can get as near to a certainty as is possible. Large, 52 week milk and butter records a specialty. Over four hundred in five different herds to select from.

BILTMORE BERKSHIRES.—No herd in the world has made as good a record. All the great Champions of England and America have either been in service or bred here. . Our yearly offerings at unreserved auction are eagerly taken at nearly double the price of all previous records. The most successful herds all over the States are using a Biltmore foundation.

BILTMORE POULTRY.—Only the UTILITY breeds. Barred and White Plymouth Rocks, White and Golden Wyandottes, Brown and White Leghorns, Bronze Turkeys, Pekin Ducks. Over 50 yards of prize winners. Extra size, fine type, from fixed strains, and more prizes won at the leading shows than all competitors together.

Also a small kennel of extra choice, Rough coated imported Scotch Collies.

The Imperial Fruit and Poultry Farm

OFFERS, AT PRICES IN REACH IN ALL,

STRICTLY PURE-BRED

Barred and White Plymouth Rocks,

White and Silver-Laced Wyandottes,

S. C. Brown and White Leghorns.

Few B. Minorca Cockerels, Bronze Turkeys and Pekin Ducks.

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cent. A similar favorable comparison may be made as to the number of depositors.

The Secretary concludes that the farmers' rate of financial progress need fear no comparison with that of any other class of producers.

U. S. Department of Agriculture, Washington, D. C. Twentieth Annual Report of the Bureau of Animal Industry, 1903.

Bureau of Chemistry. Bulletin 85. The Cementing power of Road Materials.

Bureau of Chemistry. Bulletin 87. Chemical composition of some Tropical Fruits and their products.

U. S. Department of Agriculture, Office of Experiment Stations, Washington D. C. Experiment Station Record. Vol. XVI, No. 3.

Bureau of Plant Industry. Bulletin 53. The vitality and germination of Seeds.

Bureau of Plant Industry. Bulletin 59. Pasture, Meadows and Forage Crops in Nebraska.

Bureau of Plant Industry. Bulletin 57. Legal and customary weight per bushel of Seeds.

Bureau of Soils. Bulletin 23. Investigations in Soil fertility.

Farmers Bulletin No. 210. Regulations for the certification of Associations of Breeders of Live Stock and Books of Record of Pedigrees.

Department of the Interior. United States Geological Survey. Fuel-testing plant of the United States Geological Survey.

Alabama Experiment Station, Auburn, Ala. Bulletin 120. The Mexican Cotton Boll Weevil.

Cornell Experiment Station, Ithaca, N. Y. Bulletin 222. Record of an attempt to increase the Fat of Milk by means of liberal feeding.

Colorado Experiment Station, Fort Collins, Col. Bulletin 91. Potato failures.

Bulletin 92. Large potato vines and no potatoes.

Idaho Experiment Station, Moscow, Idaho. Bulletin 42. Experiments in feeding.

Kansas Experiment Station, Manhattan, Kas. Bulletin 125. Experiments with Dairy Cows.

Maryland Experiment Station, College Park, Md. Circular Bulletin 60. Fall treatment for San Jose scale. Circular Bulletin 61. Winter work against fruit diseases.

Michigan Experiment Station, Agricultural College, Mich. Bulletin 218. Some essential soil changes produced by micro-organisms.

New Hampshire Experiment Station, Durham, N. H. Bulletin 113. Corn meal middlings and separator skim milk for fattening pigs.

New York Experiment Station, Geneva, N. Y. Bulletin 254. Fall use of sulphur sprays.

North Carolina Department of Agri-



A Happy New Year

To you Farmers! You will certainly have a Merry Christmas as well as a prosperous, happy New Year, if you used on your crops at seed-time

Virginia-Carolina Fertilizers

Now, to insure yourself a happy New Year every year, and all the year through to Christmas—continue to fertilize your crops with these well-known brands. They will pay you handsomely. Write for information if your dealer cannot furnish you.

VIRGINIA-CAROLINA CHEMICAL CO.

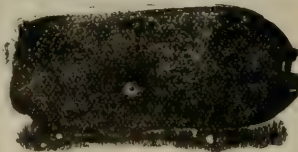
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Take no risk; confer with these people, and order direct from the veteran breeder.

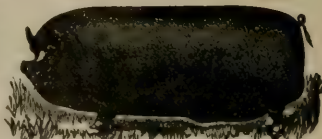
THOS. S. WHITE, Fassifern Stock Farm, Lexington, Virginia.

Five car loads bright Timothy Hay for sale, cheap.

We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

Proprietor of the Bridge Creek Stock Farm, Warrenton, N. C.



—URY STOCK FARM OF— HOLSTEIN-FRIESIANS

Have reduced our herd 25 head during the past two months, but would like to sell as many more before going into winter quarters. Herd headed by Dekol 2d, Butter Boy Dixon line. Also a choice lot of English Berkshire sows from 3 to 9 mos. Sired by Maxon Faithful, Fancy Duke and Esau Princess of Filaton. Before buying write or come and see us. **THOS. FASSITT & SONS, Sylmar, Md.**

culture, Raleigh, N. C. Entomological Circular 12. The Strawberry Weevil.

Cider making on the farm.

Hampton Institute, Va. Animal Industry Leaflet No. 4.

Virginia Crop Pest Commission, Blacksburg, Va. Circular to nurserymen and fruit growers relating to the purchase of nursery stock.

Virginia Climate and Crop Service, Richmond, Va. Report for October, 1904.

Imperial Department of Agriculture for the West Indies, Barbados, W. I. Agricultural News, October, 1904.

GRAND PRIZE FOR THE STUDEBAKERS.

It is with great pleasure that we record the fact that the Studebaker Bros. Manufacturing Company won the grand prize, which was the highest award at the Louisiana Purchase Exposition. This award covered substantially everything made by the Studebaker people, including wagons of every description for city and farm use, all styles of harness and accessories.

As hundreds of our readers are using Studebaker wagons, etc., they will doubtless take as much pleasure in reading this notice as we have in writing it.

GOLD MEDAL.

The Gold Medal, (highest award for Grinding Mills) has been placed by the Louisiana Purchase Exposition on the Exhibit of the Foss Manufacturing Company, of Springfield, Ohio, a concern that is familiar to our readers. Not only have their products been frequently presented in our advertising columns, but their mills have been in use by most of the large successful planters throughout the South.

The company is now making a new line of mills, especially adapted for grinding corn in the shuck, and our readers are advised to write at once for prices and particulars regarding these and the other mills made by this noted company.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Elkton Stock Farm,

LOCATED ON NORFOLK & WESTERN R. R.

12 Miles W. of Lynchburg.

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HEREFORD CATTLE

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BERKSHIRE HOGS.

Young stock for sale at all times, at reasonable prices.

All statements and representations guaranteed.

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FOREST DEPOT, VIRGINIA.

Rosemont Herefords.

2 finely bred bulls, 10 months and 1 year old, and 2 splendid heifers, bred to Acrobat, are our offering this month. Let us give you full particulars and pedigrees.

"A Brief History of Hereford Cattle"

will interest you. Let us send you a copy. ROSEMONT FARM, Berryville, Clarke Co., Va.



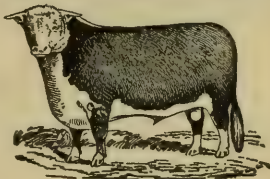
Registered • Herefords.

Herd headed by the Grand Champion

PRINCE RUPERT, 79539.

Young stock for sale. Inquiries cheerfully answered.

EDW. G. BUTLER, Annefield Farms,
Berryville, Virginia.



PRINCE RUPERT, 79 39.

Bacon Hall Farm.

Hereford Cattle :-:- Berkshire Hogs

REGISTERED—ALL AGES.

DORSET RAMS.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

E. M. GILLET & SON, - Glencoe, Maryland.

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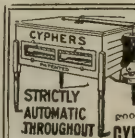


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Strawberry Hand Book. This pamphlet will be found useful by all strawberry growers. It is published by the German Kali Works, 93 Nassau street, New York, who will send copy if this journal is mentioned.

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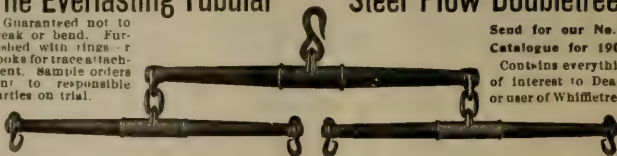
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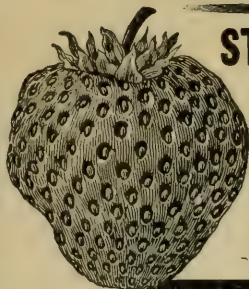
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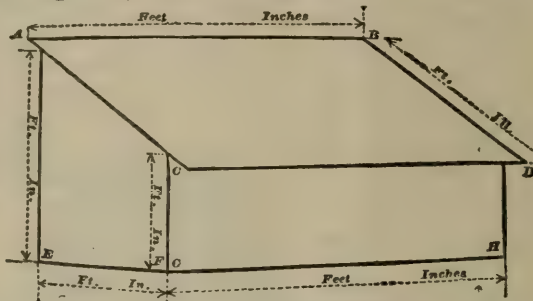
CHRISTMAS PRESENTS.

Mary Washington.

As Christmas approaches, I am reminded of one of Mr. Dooley's most amusing articles, viz., the one on the subject of Christmas presents, hitting at the numerous disappointments and misfits connected with these. Such misfits occur from persons not taking time and pains to reflect and discriminate about the presents they buy, and also they are sometimes occasioned by the inadequacy of the purchaser's funds. Generally however they come more from want of judgment and reflection than from want of means. Most people put off buying their Xmas presents till a short while before Xmas when the stores are so densely thronged that they cannot get waited on satisfactorily, and then they get worried and flurried, and hastily and injudiciously buy whatever they can get hold of most easily. If you can command the funds in time, it is far better to do your Xmas shopping in November, or even earlier. I have known persons who would begin months beforehand picking up first one pretty and tasteful article appropriate to a certain friend, and then another, whenever they happened to come across some tempting bargain, and in this way, they got suitable and acceptable articles, and avoided the rush of late Christmas shopping. It is important to study the tastes and needs of the persons to whom you wish to make presents, so as not to give idly or indiscriminately. If you have a friend who loves reading, nothing could be more appropriate and acceptable than a book, but the question arises, what kind of book shall it be? People have such various tastes about reading. What is a mental feast to one person would be absolutely distasteful to another, so you must consider your friend's bent of mind before choosing a book for her or him, as the case may be. There is a wide range of choice fiction, poetry, drama, history, biography, travel, religious reading and miscellany. In all these departments, admirable works await those who know how to choose them. A year's subscription to some good periodical is also a delightful Xmas present for a person who is fond of reading, and the oft recurrent arrival of the periodical, gives more pleasure than the one volume given at Christmas. It gratifies people especially to have something given them for their own individual use or pleasure, and this is particularly the case with hard working, self-denying people who spend little or nothing on the indulgence of their own tastes and fancies, but use their means to buy utilitarian things for the common good of the household. Instead of making a so-called present of this nature to the laborious mother of the household, give her a nice pair of kid gloves, a package of fine handkerchiefs, a dainty volume by her favorite author.

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a photograph of some fine painting to hang in her bed room, or a pretty pair of vases for her mantel piece. I have read of a man who would make his wife a present of a new cooking stove or some similar article at Christmas. Instead of giving her some little article that showed special thought of herself, her needs or her fancies, some little article, no matter how trivial, intended for her personal use, pleasure or adornment. Such thought on the part of the husband tends to bring back the roses to the faded cheek of the toil worn wife, and to create a youthful gladness in her heart.

A graceful and appropriate offering at Christmas is something of our own production, and if the recipient be a person of any sentiment, this will be more prized than any other kind of present. Those who do fancy work have it in their power to make beautiful presents of their own handiwork, though the strain on their eyes, and the amount of time and labor required to prepare these presents make them more burdensome than others, but still it is a burden willingly borne for the sake of sentiment and affection. Presents of this kind require to be planned long beforehand, so that the work may be gradually done, and not fall too pressingly on the eye sight and time just before Christmas.

Flowers or plants are a lovely Christmas offering, and they seem doubly so, if they come from the pit or green house of a friend where they have been tended by her own hands. A hamper filled with red berries, running cedar, ferns and evergreens, is a charming present for a country person to send a city friend and delights the latter far more than any gift of "manufactured mechanism."

Where persons have limited means (as is the case with the majority) it is a good thing for two or three members of the family to club together when they wish to make an especially nice present. It secures the increased results which always flow from co-operation. In this way, two young girls, for instance, might arrange to give a nice rocking chair to their mother, or a pretty piece of silver, or they might give a more valuable book or magazine to their father than either one could do singly.

Finally, I would say to those who are not so situated as to make Christmas presents, you can still show the Christmas spirit of peace and good will, and show a kindly interest in and hearty sympathy with others. Above all, if you have any breach with friends, neighbor or relative, let Xmas be a season of reconciliation. Let it be a time for forgiving and putting away all bitter and resentful thoughts.

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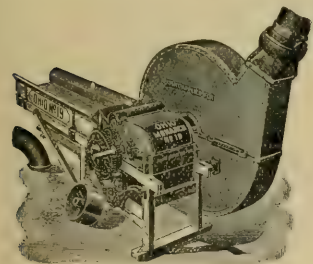


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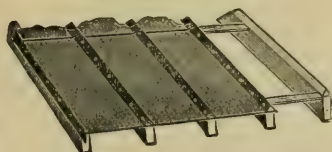


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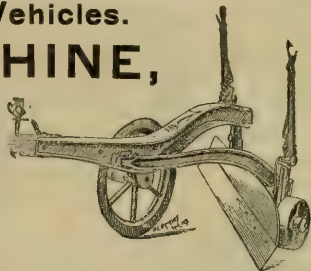
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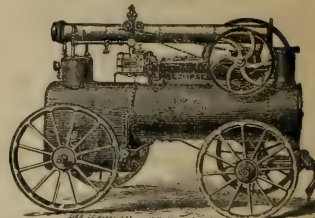


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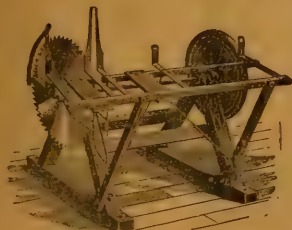
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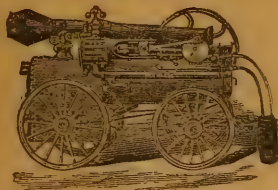
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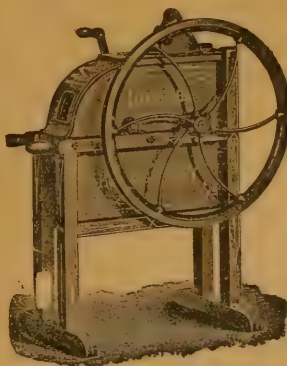


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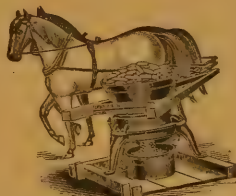
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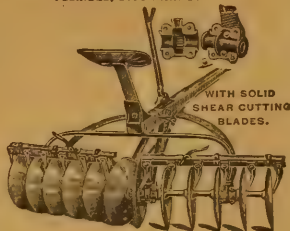


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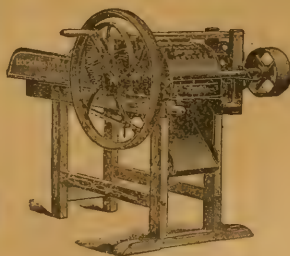


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